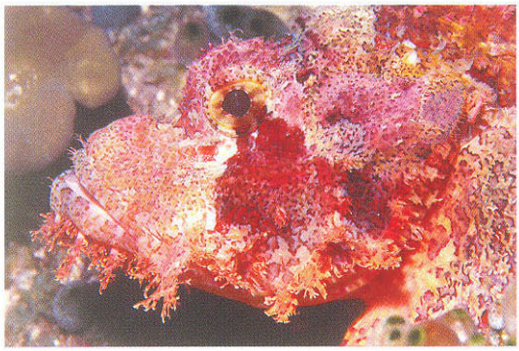
REEF FISHES OF THE MALDIVES

Dr. R. Charles Anderson

REEF FISHES
OF THE
MALDIVES

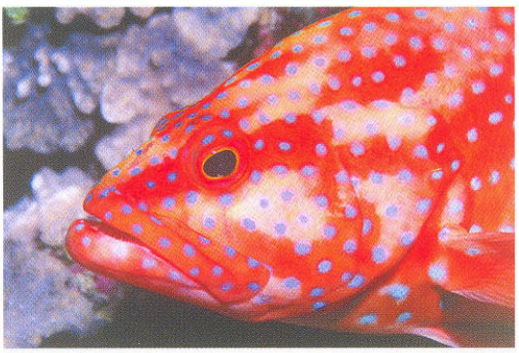
Dr. R. Charles Anderson



Smallscale Scorpionfish *Scorpaenopsis oxycephala*

Sabre Squirrelfish *Sargocentron spiniferum*

Crescent-tail Bigeye *Priacanthus hamrur*



Vermilion Rock Cod *Cephalopholis miniata*

Dedication

For my son Robert

Robert Anderson, aged 4, snorkelling in the Maldives

REEF FISHES OF THE MALDIVES
Dr. R. Charles Anderson

ISBN: 99915-54-01-7
Registration number: DPE/2004/A-165

Published by Manta Marine Pvt Ltd
P.O. Box 2074, Malé, Republic of Maldives
anderson@dhivehinet.net.mv

First published 2005
Reprinted 2008
© Text and photos 2005 Dr. Robert Charles Anderson
All rights reserved
All photos taken in the Maldives

Design concept by Manta Marine, Maldives
Layout by Mark Howlett, Howlettdesign.co.uk
Slides scanned by Helen Morrison, Piggott Printers, UK
Printed by Tien Wah Press, Singapore

Front Cover: **Oriental Sweetlips** *Plectorhinchus vittatus*
Title Page: **Commerson's Frogfish** *Antennarius commersoni*
Back Cover: **Manta Ray** *Manta birostris*

REEF FISHES OF THE MALDIVES

Dr. R. Charles Anderson

ACKNOWLEDGEMENTS

It has been a great pleasure working with many people over the several years that this book has been in gestation. To those who have assisted with diving, photography, fish identification and other tasks during that time, thank you all. To Jack Randall, the World's foremost authority on Indo-Pacific reef fishes, my particular thanks for advice and support over nearly 20 years. Rick Winterbottom, Phil Heemstra, Helen Larson and Tony Gill have also provided much appreciated ichthyological advice. I am most grateful to all my colleagues at the Marine Research Centre, especially the late Maizan Hassan Maniku and Ahmed Hafiz, as well as Mohamed Shiham Adam, Zaha Waheed, Abdullah Naseer and Ibrahim Naeem. For their numerous courtesies I am also grateful to Herbert Unger and Petra Viel, Norbert Schmidt, Claude and Hitomi Strobbe, Rob Bryning and Sam Harwood, Carl Nichols, Mustag Hussein, Tokihiko Sakamoto, Gert van Weert, Helen Morrison, Mark Howlett and my parents. Finally, my greatest debt of gratitude is to my wife Susan, who made it happen.

Maldives Blenny *Ecsenius minutus*

CONTENTS

INTRODUCTION 1
Sharks 5
Rays 7
Moray Eels *Muraenidae* 9
Garden Eels *Congridae* 11
Snake Eels *Ophichthidae* 11
Herrings *Clupeidae* 11
Lizardfishes *Synodontidae* 13
Mullets *Mugilidae* 13
Frogfishes *Antennariidae* 15
Silversides *Atherinidae* 16
Needlefishes *Belonidae* 16
Halfbeaks *Hemiramphidae* 16
Flashlight Fishes *Anomalopidae* 16
Flutemouths *Fistulariidae* 17
Trumpetfishes *Aulostomidae* 17
Soldierfishes *Holocentridae* 19
Squirrelfishes *Holocentridae* 21
Ghost Pipefishes *Solenostomidae* 22
Pipefishes *Syngnathidae* 23
Scorpionfishes *Scorpaenidae* 25
Groupers *Serranidae* 29
Basslets *Serranidae* 35
Soapfishes *Serranidae* 35
Anthias *Serranidae* 37
Dottybacks *Pseudochromidae* 38
Longfins *Plesiopidae* 38
Tilefishes *Malacanthidae* 38
Bigeyes *Priacanthidae* 39
Cardinalfishes *Apogonidae* 41
Jacks *Carangidae* 43
Remoras *Echeneidae* 44
Silverbiddies *Gerreidae* 44
Snappers *Lutjanidae* 45
Fusiliers *Caesionidae* 49
Sweetlips *Haemulidae* 51
Emperors *Lethrinidae* 53
Threadfin Breams *Nemipteridae* 54
Sweepers *Pempheridae* 55
Rudderfishes *Kyphosidae* 55
Goatfishes *Mullidae* 57
Butterflyfishes *Chaetodontidae* 59
Angelfishes *Pomacanthidae* 65
Hawkfishes *Cirrhitidae* 67
Damselfishes *Pomacentridae* 69
Wrasses *Labridae* 75
Parrotfishes *Scaridae* 87
Sandperches *Pinguipedidae* 91
Triplefins *Tripterygiidae* 92
Dragonets *Callionymidae* 92
Blennies *Blenniidae* 93
Gobies *Gobiidae* 97
Dartfishes *Microdesmidae* 106
Batfishes *Ephippidae* 107
Rabbitfishes *Siganidae* 108
Moorish Idol *Zanclidae* 109
Surgeonfishes *Acanthuridae* 111
Barracudas *Sphyraenidae* 116
Tunas *Scombridae* 116
Flatfishes *Pleuronectiformes* 117
Filefishes *Monacanthidae* 119
Triggerfishes *Balistidae* 121
Boxfishes *Ostraciidae* 123
Pufferfishes *Tetraodontidae* 125
Porcupinefishes *Diodontidae* 127
INDEX 128
SELECTED READING 130

Maldives Triplefin *Helcogramma maldivensis*

INTRODUCTION

For the diver or snorkeller swimming over a Maldivian coral reef for the first time, the overwhelming impression is nearly always one of fish. They are everywhere. Brightly coloured, beautifully patterned fish darting swiftly among the corals or lying sedately in midwater. The colours, the diversity, the activity can be quite stunning and not a little bewildering.

Some 1200 species of fish have been recorded from the Maldives so far. Many more undoubtedly await discovery. Indeed there are likely to be over 1500 species living here altogether. With nearly 500 species, this book is not intended to be comprehensive. Rather, it aims to provide an introduction to the commoner and more conspicuous fishes of the reefs; the fishes that any snorkeller or diver can expect to see.

For each species the **English name** is given first. There is great variation in the usage of English names, and as yet no agreed standard. Many species have different names in British, Australian and American English, with several other local variants thrown in too. This can and does lead to some confusion. I use here the names that have been most commonly used in the Maldives.

Because of the confusion over English names, scientific or **Latin names** are especially useful. These names may at first sight seem unnecessarily long and unpronounceable, but with just a little practice they can be tripped off the tongue with panache. They also have the great advantage of being international. In addition there is one and only one correct scientific name for each species (although for some species there is still some uncertainty as to just what that name should be).

Maldivian (Dhivehi) names are also given. Many species of reef fish, particularly those of commercial importance, have numerous local names, with considerable variation between islands and atolls. In such cases the name used in Malé is given. At the opposite extreme, many species do not have individual Maldivian names at all. In these cases 'generic' names are given. The Marine Research Centre in Malé has attempted to give Dhivehi names to many such species, coining new names where needed. When I have used these 'book names' they are included here in brackets.

Length is given for each species. It is a rough guide only and is the approximate size of the largest members of the species likely to be seen while snorkelling or diving in the Maldives. This is often less than the maximum size commonly seen in other countries, and considerably less than the maximum length ever recorded for that species. There are some exceptions though, including cases where the largest specimen ever recorded was from the Maldives.

The Top Ten

The main aim of this book is to allow divers and snorkellers to identify the fishes they see in the Maldives. However, the diversity of fishes on Maldivian reefs is so great that it is quite possible to see over 200 species of fish on one dive or snorkel. For a beginner, confusion is almost inevitable.

To compound the difficulties, many fish species have different colours in their juvenile and adult forms; in many cases adult males and females have different colours; and on top of that many individuals can change their colours in just a matter of seconds to match their mood or their background. And one more thing: colour changes rapidly with depth as water absorbs light at the red end of the spectrum. So, for example, fish that appear purple at the surface (or in underwater photos illuminated by flash) may appear blue at depth.

All in all it is a bit of a challenge. Trying to learn all the different species from scratch is extremely difficult, especially within the timeframe of a typical holiday. One approach is to concentrate

Dawn Shrimp Goby *Amblyeleotris aurora*

Dracula Shrimp Goby *Stonogobiops dracula*

first on identifying just one or a few main types or families of fishes. The top ten families of fishes in the Maldives, in terms of numbers of species, are:

1. ***Gobies*** (see page 97)
2. ***Wrasses*** (page 75)
3. ***Groupers*** & relatives (page 29)
4. ***Damselfishes*** (page 69)
5. ***Snappers*** (page 45)
6. ***Cardinalfishes*** (page 41)
7. ***Moray Eels*** (page 9)
8. ***Blennies*** (page 93)
9. ***Butterflyfishes*** (page 59)
10. ***Surgeonfishes*** (page 111)

Together these ten fish families contribute over 50% of all fish species known from Maldivian reefs. So getting to know some of these families will certainly improve your fish identification capabilities.

Only in Maldives

Most reef fish species found in the Maldives have very wide distributions. Many species range from the shores of East Africa to the far reaches of the tropical Pacific, a distance of many thousands of miles. But it is quite common for reef fishes to live their entire adult lives on just one reef, in many cases on just one small patch of reef. So how do such stay-at-homes come to have such enormous ranges?

The answer is that nearly all reef fishes release their eggs into the open water. Larvae hatch from the eggs and are carried far and wide by the powerful ocean currents that sweep across the Maldives. As a result only a handful of fishes are unique to the Maldives and its immediate surroundings. These include the Maldives Anemonefish (below and page 69), Maldives Sandperch (page 91), Maldives Triplefin (pages vi and 92), and Maldives Blenny (pages iv and 94). All are common here and well worth looking out for.

Because the ocean currents do such a good job of transporting fish larvae, the reef fishes of the Maldives are rather similar throughout the country. Whichever atoll you dive in you will see the same common species. However, there are some minor regional differences. In particular, the fish fauna of the far south of the Maldives is slightly different from that of the north and centre. The south of the Maldives is influenced by equatorial currents, which flow mainly from the west. As a result, several of the species that in Maldives are only seen in the south originate in the western Indian Ocean. An example is the African Pygmy Angelfish (page 65), which is not uncommon in the south but is very rare in the north and centre of the Maldives. As its name suggests, it occurs along the coast of Africa and it is confined to the western Indian Ocean. Also in the south, the Maldives Anemonefish (page 69) frequently shows a unique form with an orange anal fin, whereas in the north and centre all the ventral fins are black.

Returning to the broader scale, most of the reef fishes found in the Maldives are widely distributed in the Indian and western Pacific Oceans. But as more detailed studies are carried out, it is becoming apparent that many of these fish

Maldives Anemonefishes *Amphiprion nigripes*

species show consistent differences in colour and anatomy between the Indian Ocean and Pacific Ocean parts of their range. These differences probably date from the Ice Ages when sea levels were very much lower than now. The seaways of the Indonesian Archipelago were greatly reduced, and so too was mixing between Indian Ocean and Pacific Ocean fish populations. The separate populations diverged, and some are now so distinct that it is clear they should be classified as different species. Others show only minor differences, and most scientists are content to treat them as forms or subspecies of a single species. But for some fishes it is not clear whether they should be treated as separate species or as subspecies. As a result, there is still some confusion over the correct scientific name to be used for these fishes. One example is the Common Lionfish (page 24), known in the Indian Ocean as *Pterois volitans* by scientists who believe that there is one Indo-Pacific species and as *Pterois miles* by those who think the Indian Ocean species is distinct from that in the Pacific. Another example is the Duskyfin Rock Cod (page 31), which is known as *Cephalopholis urodeta* or *Cephalopholis nigripinnis* by different scientists with different opinions.

Monsoon Currents

The currents that sweep through the Maldivian atolls do not just carry fish larvae. As the currents push over and around the atolls they draw nutrients up from the deep. These nutrients not only nourish the very corals that form the atoll reefs, but they also promote great blooms of plankton. As a result the Maldives is a marine oasis, in the midst of an oceanic desert.

Tropical oceanic waters are incredibly clear. It is not unusual for underwater visibility to exceed 30m. This is certainly a boon for divers, but it is also an indication of the poverty of the oceans. Ocean waters are so clear and so blue precisely because they contain so little life. There is no plant plankton to colour the waters green, no clouds of animal plankton to obscure the visibility.

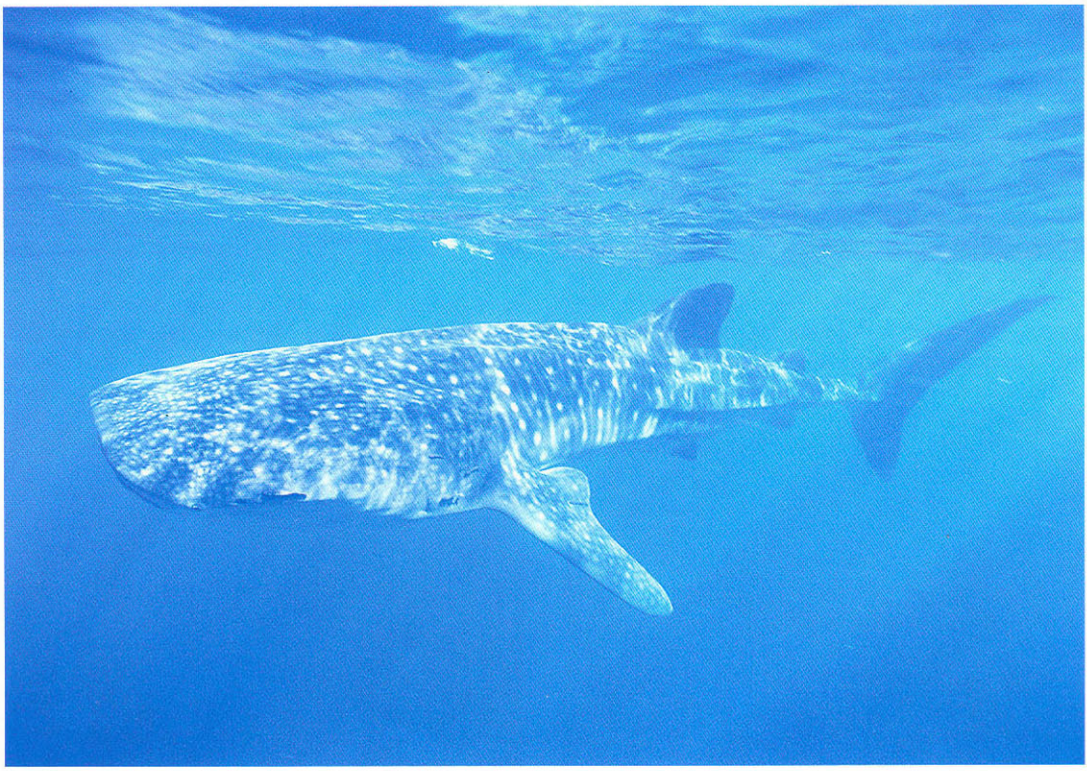
In the northern Indian Ocean, the ocean currents and the winds reverse direction twice a year. In the vicinity of the Maldives, the winds blow predominantly from the northeast from December to March. During May to October, the winds blow predominantly from the opposite direction, the southwest. These two seasons, or monsoons, are named for the prevailing winds, so we have the Northeast Monsoon (*iruvai* in Maldivian) and the Southwest Monsoon (*hulhangu*). April and November are periods of transition, the intermonsoon months.

The ocean currents flow in roughly the same direction as the winds, part of the year from one side, the rest of the year from the other. During the Northeast Monsoon (December to March), the ocean current flows mainly from the east. Clear ocean water bathes the eastern side of the Maldives, bringing stunning visibility for divers. But the action is largely on the western, downstream, side. The great bulk of the Maldives (which runs north-south) sits astride the ocean current (running east-west). The current pushes up and over the obstacle, causing mixing and upwellings, and drawing nutrients up from deeper water. Plant plankton can use these nutrients to grow, and they do so in enormous profusion on the downstream (western) side. Animal plankton feast on the tiny floating plants, and are in turn preyed upon by larger animals. Silver Sprats and Fusiliers, Red-toothed Triggerfish and Schooling Bannerfish, Manta Rays and Whale Sharks all gorge themselves on the seasonal bounty.

During the Southwest Monsoon (May to October) everything is reversed. Winds and current flow from the west, bringing clear oceanic water to the western side of the Maldives, while plankton blooms on the downstream (eastern) side. So now the mobile plankton eaters, from Silver Sprats to Whale Sharks are all in the east. Those species that cannot move (from corals to the more reef-associated fishes) stay put and eke out the lean season, waiting for the monsoon to reverse again and the life-giving plankton to return.

Smallscale Scorpionfish *Scorpaenopsis oxycephala*

Grey Reef Shark *Carcharhinus amblyrhynchos* Thila miyaru 1.6m
The classic shark of Maldivian reefs

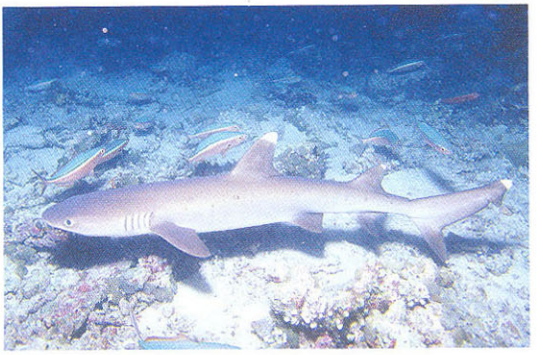


Whale Shark *Rhincodon typus* Fehurihi 10m
The largest fish in the World, this is a harmless plankton feeder

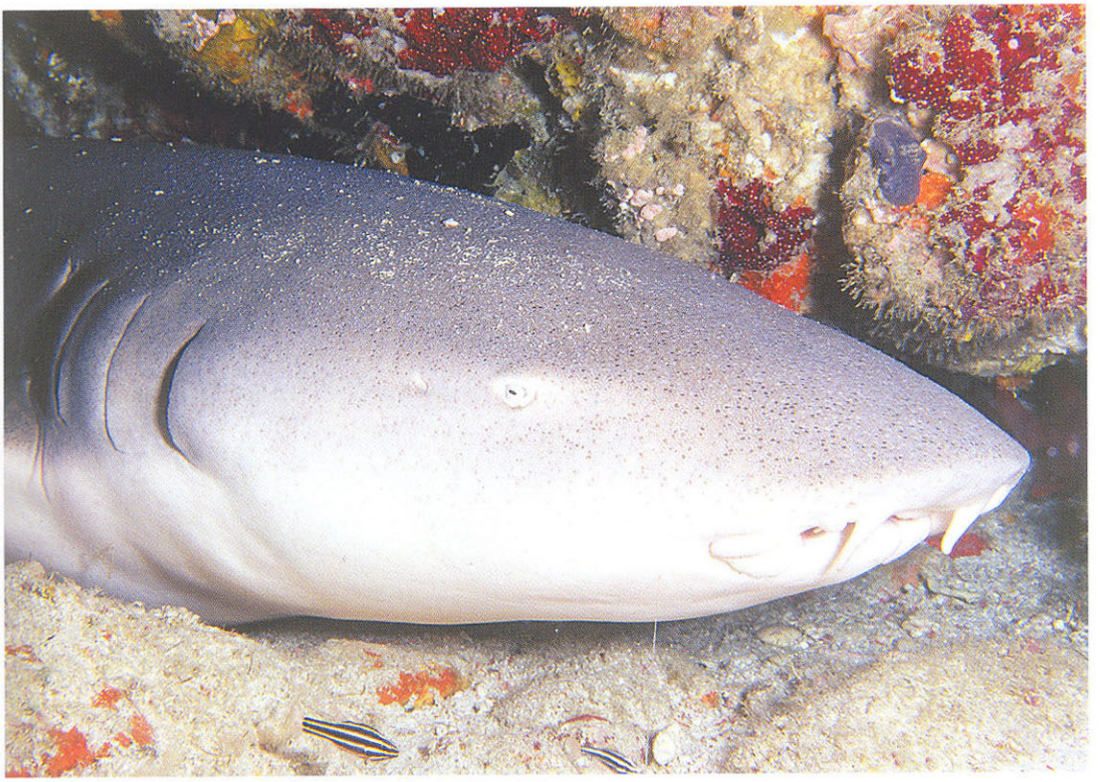
SHARKS

Although many people are frightened at the thought of swimming with sharks, Maldivian reef sharks are not at all aggressive towards snorkellers or divers. The very few people who have been bitten by sharks here are divers involved in shark feeding, and fishermen who are careless in landing sharks that they have caught. Of the forty or so species of shark that have been recorded from the Maldives so far, the most familiar is perhaps the Blacktip Reef Shark. Juveniles occur in shallow water near island beaches, where they avoid larger, deeper-swimming sharks that might eat them. As a result this species is seen far more often by sunbathers than by divers or snorkellers. In contrast, the Whitetip Reef Shark might be seen on almost any dive or snorkel and is probably the most widespread shark species on Maldivian reefs. The other common species is the Grey Reef Shark, which occurs regularly at particular channel entrances and current-swept reefs. Getting into position at the upstream end of such dive sites is sometimes a bit of a challenge, but always rewarding.

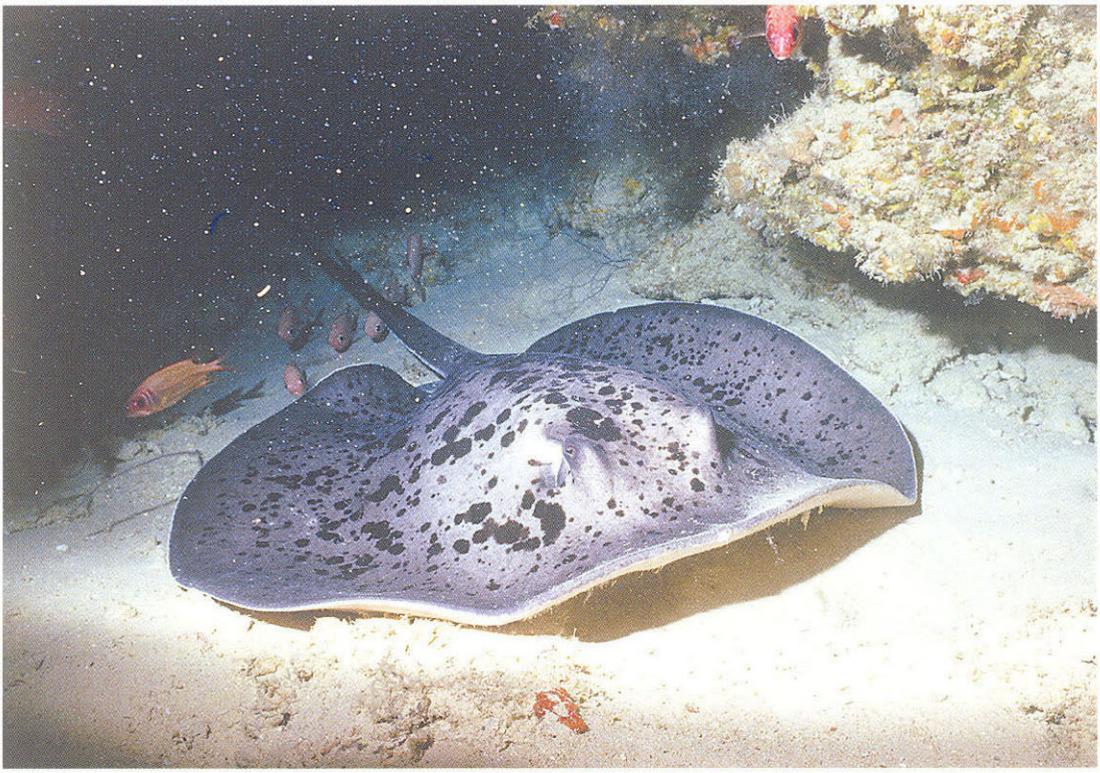
Blacktip Reef Shark
Carcharhinus melanopterus Falhu miyaru 1.4m



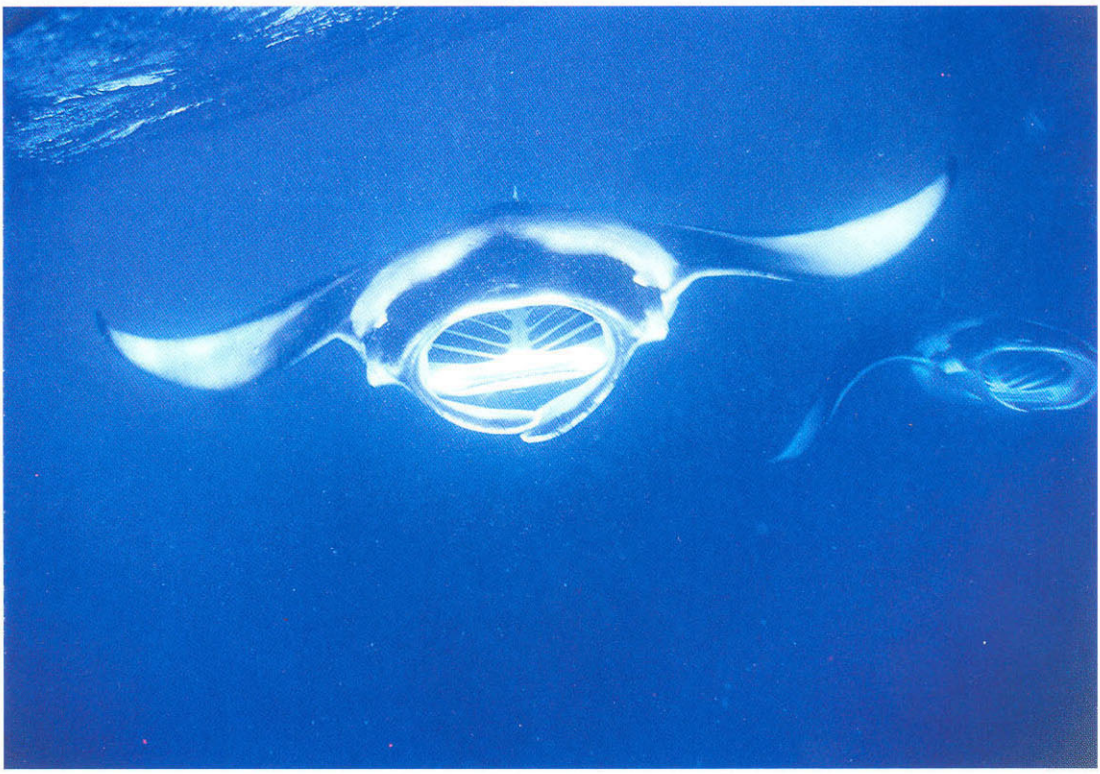
Whitetip Reef Shark
Triaenodon obesus Faana miyaru 1.2m



Tawny Nurse Shark *Nebrius ferrugineus* Nidhan miyaru 3m
The Maldivian name rather appropriately means 'sleeping shark'



Black-blotched Stingray *Taeniura meyeni* Naru nagoo madi 1.5m across
The common large Stingray of the Maldives, a regular at certain divesites and resort feeding stations



Manta Ray *Manta birostris* En madi 3m across
These Mantas were busy straining plankton from the current with their basket-like mouths

Rays

Stingrays, Manta Rays and Eagle Rays are some of the most delightful of all creatures on the Maldivian reefs. Indeed, of all the fishes Mantas are my personal favourites. They are particularly easy to watch in the Maldives as they occur seasonally at regular feeding and cleaning stations. At cleaning stations they are usually seen in small numbers, but when the currents are right for feeding up to 100 may gather at one time in favoured channels. In contrast to the Mantas, which feast in midwater on tiny planktonic animals, Stingrays are bottom-feeders. They dig out clams and other animals buried under the sand. Stingrays, and some other rays, have a strong spine on their tails, often near the base rather than at the tip as many people imagine. Stingrays use these spines to defend themselves if molested and are capable of inflicting very serious wounds. Then there is the Electric Ray, which can deliver a shock of a few hundred volts. Fortunately, none of these animals is the least bit interested in attacking people, but they should all be treated with appropriate respect.

Electric Ray
Torpedo fuscomaculata Assi madi 50cm

Feathertail Stingray
Pastinachus sephen Naru nagoo madi 1.3m across

Spotted Eagle Ray
Aetobatus narinari Vaifiya madi 1.4m across

Whiptail Stingray (Foreground)
Himantura fai Naru nagoo madi 1.3m across

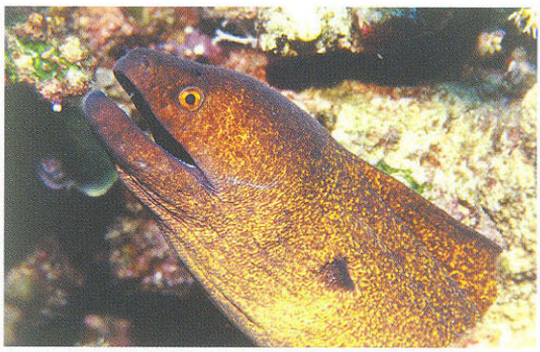
Clouded Moray
Echidna nebulosa Ven 60cm

Zebra Moray
Gymnomuraena zebra Ven 1m

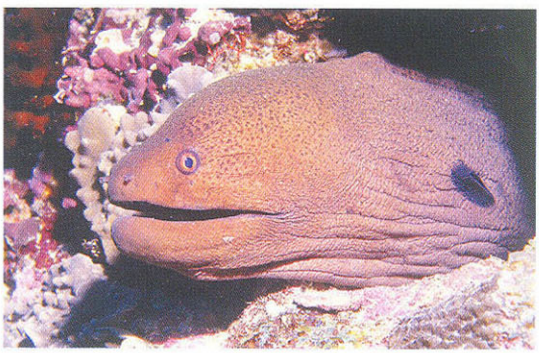
Bandit Moray (Aggressive)
Gymnothorax breedeni Ven 70cm

Honeycomb Moray
Gymnothorax favagineus Ven 1.8m

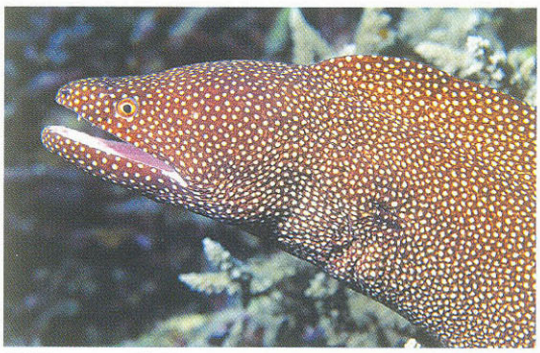
Darkspotted Moray
Gymnothorax fimbriatus Ven 60cm



Yellowmargin Moray
Gymnothorax flavimarginatus Ven 1.2m



Giant Moray
Gymnothorax javanicus Kalhu ven 2.2m



White-mouth Moray
Gymnothorax meleagris Ven 1m

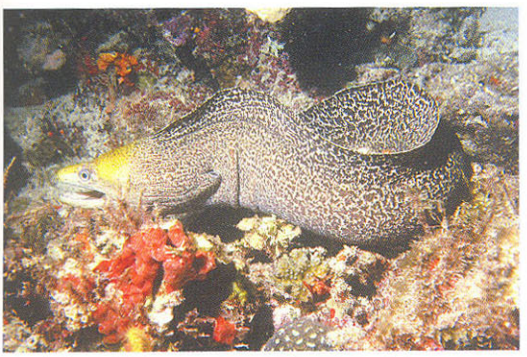
Moray Eels

MURAENIDAE

Most eels seen on Maldivian reefs are Moray Eels. They lack pectoral (side) fins, in contrast to other types of eel, such as Garden Eels and most Snake Eels, which do have pectoral fins. Some species of Moray regularly swim out in the open, notably the Peppered Moray (right), which regularly forages on the reef flat or along beachfronts. They are sometimes mistaken for sea snakes. However, only one species of sea snake is known from the Maldives, the black and yellow pelagic sea snake *Platyurus pelamis*. That occurs out in the open ocean and is only very rarely seen around Maldivian reefs. Moray Eels have a fearsome reputation among fishermen. But to the diver or snorkeller who does not provoke them Morays are gentle and graceful creatures. One exception is the Bandit Moray (far left). It lives near the top of the reef slope in areas where Anthias swarm (see page 37). The Bandit Moray preys on the Anthias, but also drives away other potential Anthias-eaters, such as Jacks, Groupers and divers rash enough to place a hand near their lair.

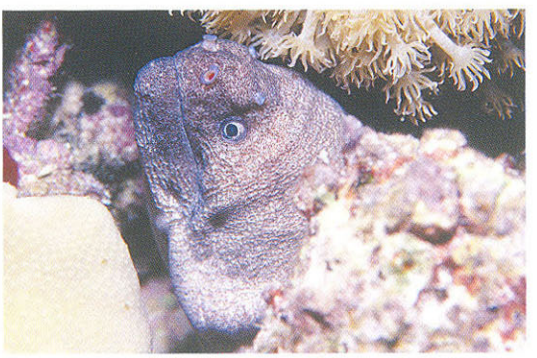
Peppered Moray
Siderea picta Ven 1m

White-eye Moray
Siderea thyrsoidea Ven 40cm



Undulated Moray *Gymnothorax undulatus* Ven 1.1m
Smaller individuals (right) show distinct undulating lines on their sides

Bartail Moray
Gymnothorax zonipectis Ven 40cm



Grey Moray
Uropterygius marmoratus Ven 80cm

Ribbon Eel *Rhinomuraena quaesita* Ven 1.2m
Juveniles and males (above) are black and yellow, while females are blue and yellow (below)

Ribbon Eel *Rhinomuraena quaesita* Ven 1.2m
Not common in Maldives; may be seen in channels on current-swept rubble patches adjacent to reefs

Garden Eels

CONGRIDAE

Garden Eels are plankton-eaters. Three species occur in the Maldives, the Black-spotted Garden Eel being the most conspicuous since it lives in the shallowest areas. Although most often seen below 20m, it can occur as shallow as just 2-3m. Its scientific name celebrates the pioneer diver Hans Hass, who led the first-ever diving expedition to the Maldives in 1957-58.

Black-spotted Garden Eel
Heteroconger hassi Ven 40cm

Snake Eels

OPHICHTHIDAE

There are several species of Snake Eel in the Maldives, but they are not seen very often. Some live in very deep water, while the ones that do live within diving depths are nocturnal. Perhaps the most frequently seen is the Spotted Snake Eel, which roams over reefs in moderate depths at night in search of small fish and shrimps to eat. It therefore might be seen on any night dive. In contrast, the Black-pitted Snake Eel lives in lagoons in a sand burrow, and only normally shows its head. It relies on potential prey passing within reach of its lair. This Snake Eel's tail is even more sharply pointed than its head, and it is capable of burrowing both forwards and backwards through the sand. The one illustrated here was photographed in barely 2m of water under a resort jetty just minutes before midnight one New Year's Eve.

Spotted Snake Eel
Myrichthys maculosus Ven 75cm

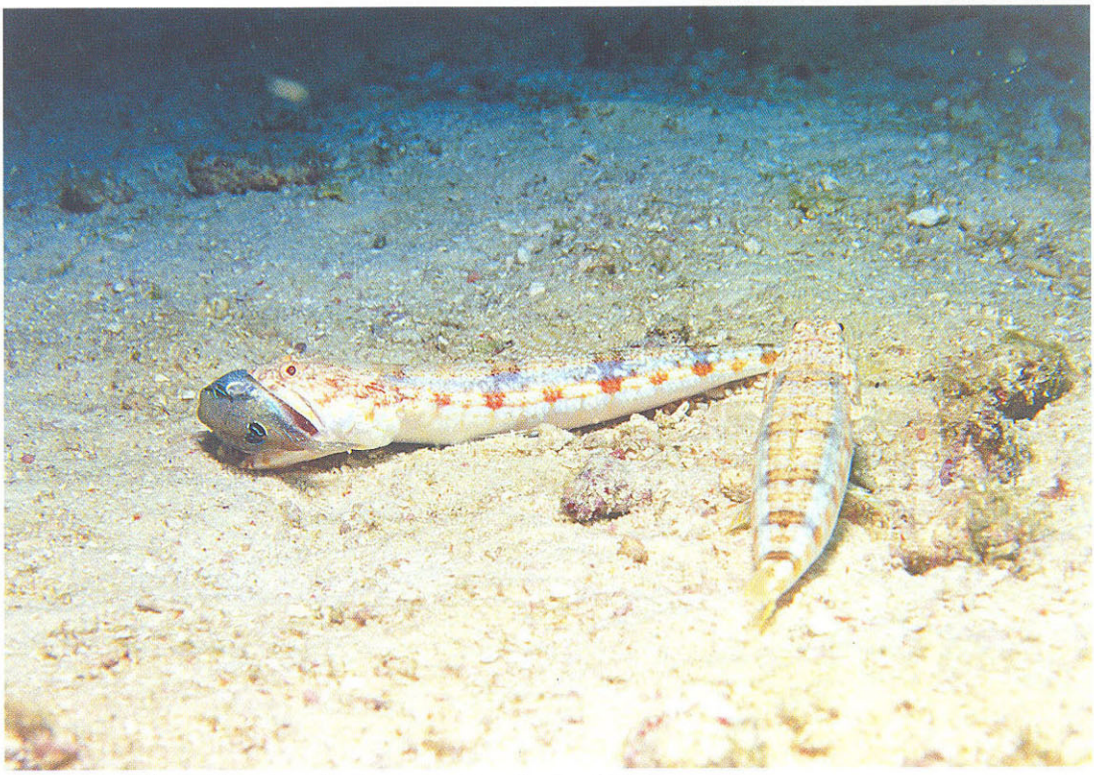
Black-pitted Snake Eel
Pisodonophis cancrivorus Ven 75cm

Herrings

CLUPEIDAE

Several species of small tropical Herring occur in the Maldives, but only one is regularly noticed by divers and snorkellers. This is the Silver Sprat, and it is arguably the most important reef fish in the Maldives. It occurs seasonally in huge numbers and is a vital source of food for many reef predators. The Silver Sprat is also the most important single species of baitfish for Maldivian tuna fishermen.

Silver Sprat (Rainbow Runner in foreground)
Spratelloides gracilis Rehi 6cm



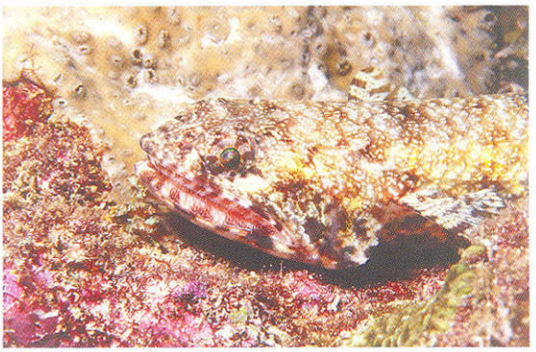
Grey-streak Lizardfish *Synodus dermatogenys* Ala thandu 20cm
Often seen in pairs on sand adjacent to reefs

Reef Lizardfish *Synodus variegatus* Ala thandu 25cm
This species is more likely to sit up on rocks and corals than other Lizardfishes

LIZARDFISHES

SYNODONTIDAE

Lizardfishes are easily confused with Sandperches (page 91). Both are medium-sized predators that sit on the bottom, waiting for potential prey to wander within striking range. But Lizardfishes appear more obviously scaly and do have a more reptilian look as suggested by their name. They also have their pelvic fins set behind their pectoral (side) fins, while the opposite is true in Sandperches. Lizardfishes rely on a short burst of speed to lunge out and catch their prey. With this method of hunting it helps that they are fairly well camouflaged, but they often go one step further by burying themselves in sand. It seems that they sometimes bite first and think later: one of the Grey-streak Lizardfishes in the picture (left) has a Bennett's Sharpnose Pufferfish (page 125) wedged in its mouth. The Lizardfish was unable to swallow its dinner and eventually had to spit it out. Unusually for these bottom-dwellers, the Tail-spot Lizardfish (or Javelinfish, right) will sometimes venture up into midwater to feed.



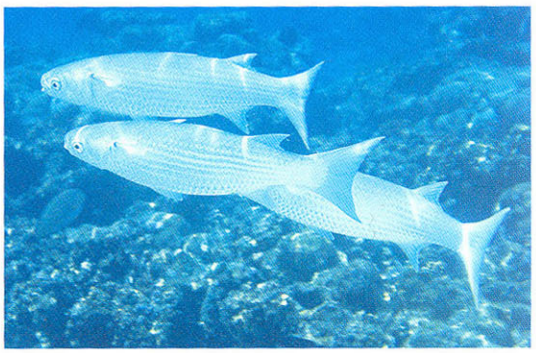
Slender Lizardfish
Saurida gracilis Ala thandu 25cm

Tail-spot Lizardfish
Synodus jaculum Ala thandu 20cm

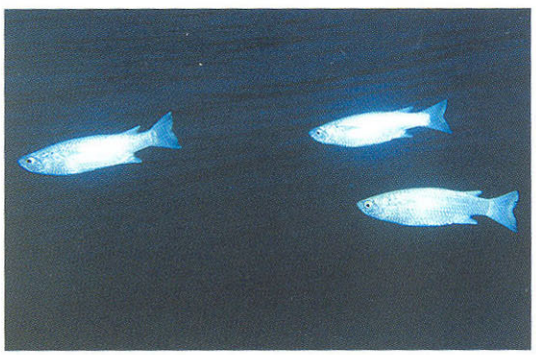
MULLETS

MUGILIDAE

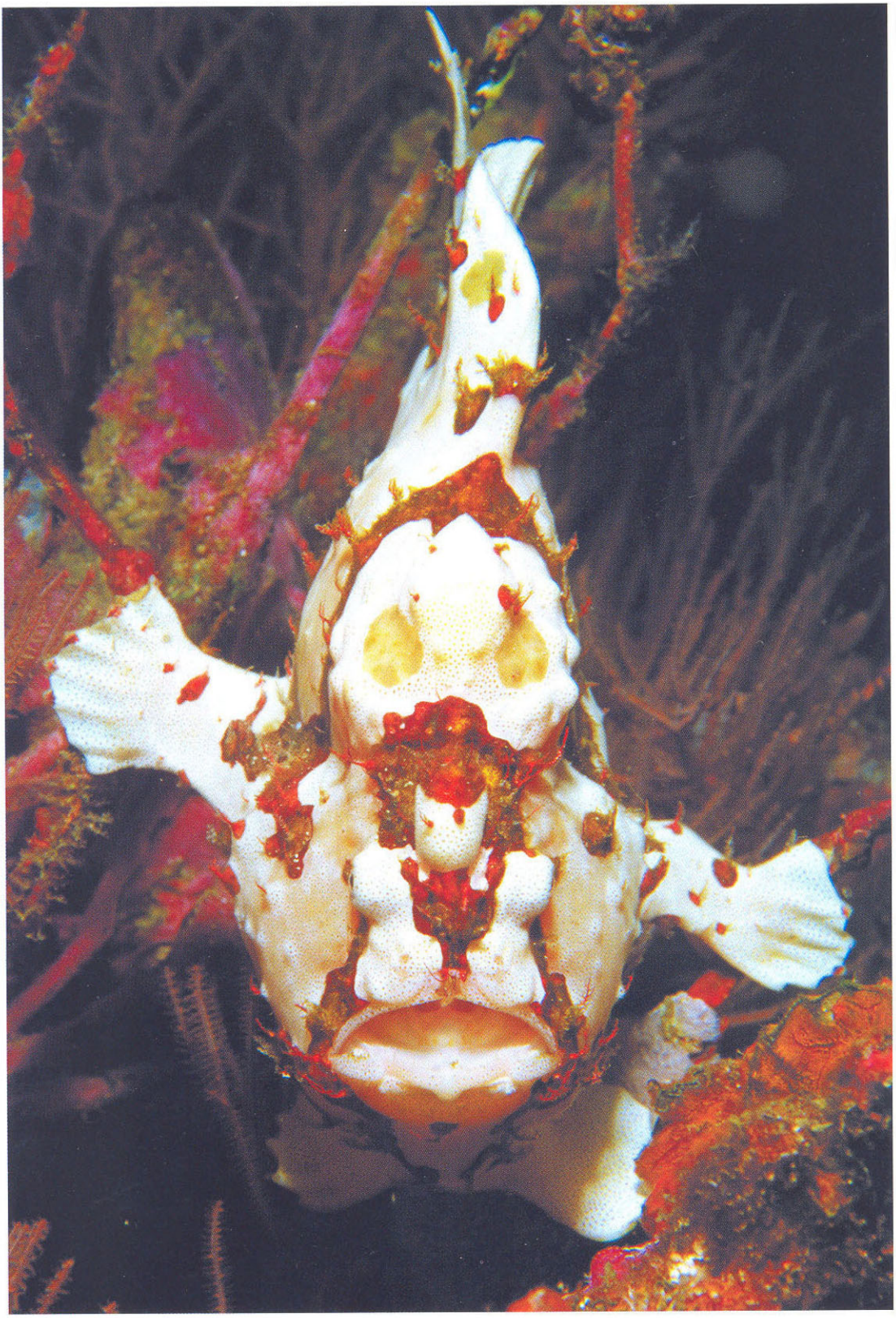
Mullets are fishes of sandy places. They feed by sifting algae and small animals from mouthfuls of sand. They also occasionally feed at the very surface of the sea, slurping floating detritus with snouts poking out into the air. Of the two common Maldivian species, the smaller Thicklip Mullet is usually seen in small schools in very shallow water adjacent to island beaches. They are more likely to be seen from an island jetty than while diving. The larger Fringelip Mullet is also a schooling species, but is more commonly found in deeper lagoon areas. This species is an occasional but very energetic jumper. Maldivians are well aware of this and have incorporated their observations into a well-known local proverb: *mekunu fumunakas gaahaka akah nufumeveyne*, 'the Mullet can jump but the Giant Clam cannot'. It is a salty put-down for young upstarts.



Fringelip Mullet
Crenimugil crenilabrus Mekunu 45cm



Thicklip Mullet
Oedalechilus labiosus Mekunu 20cm



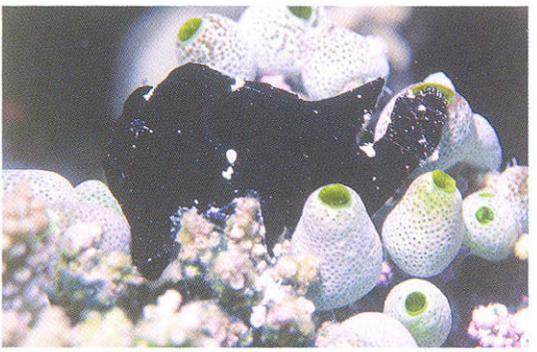
Warty Frogfish *Antennarius maculatus* Bohmas 9cm
This little Frogfish was found sitting in an old black coral bush

FROGFISHES

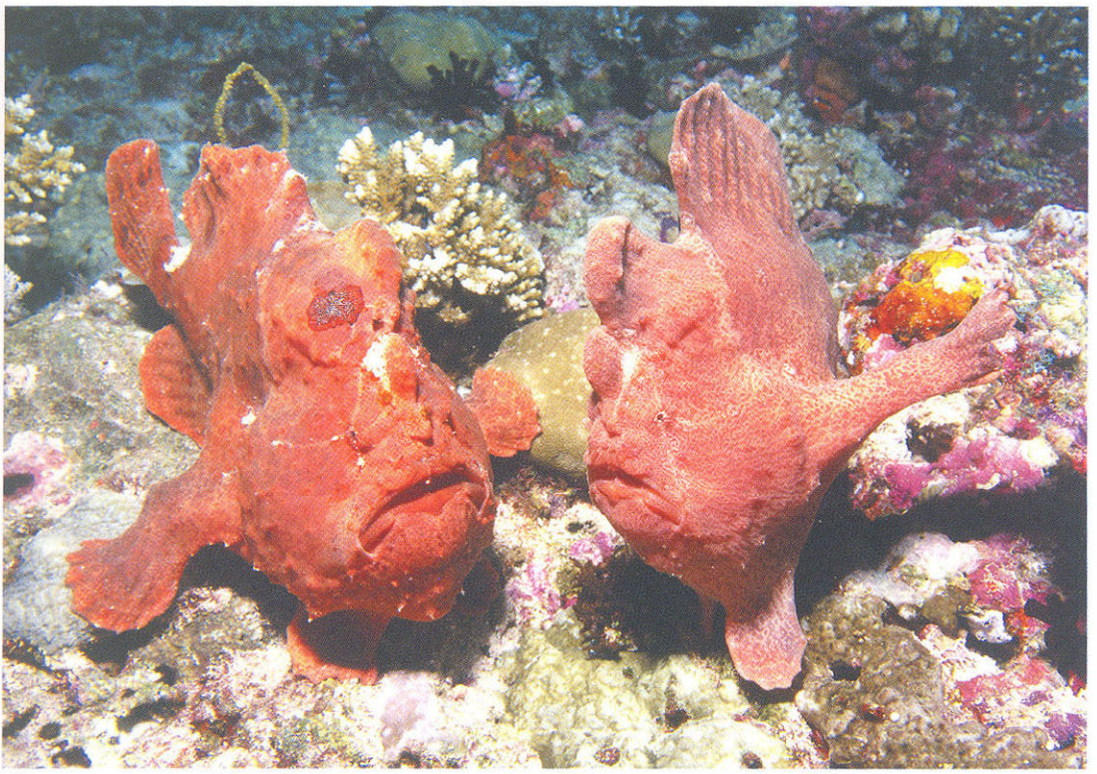
ANTENNARIIDAE

Finding a Frogfish for yourself has got to be one of the great thrills of diving. They are superbly camouflaged, to avoid detection by prey and predators alike, so spotting one takes more than a little luck and skill. Frogfishes are sometimes called Anglerfishes, but that name is more commonly used for the larger group of fishes to which Frogfishes belong or for a separate group of deepsea fishes. Because Frogfishes tend to stay put on one patch of reef for weeks or months at a time, and because they are so popular with divers, known individuals are sometimes the subjects of fish-rustling by dive guides. Six species of Frogfish are known from the Maldives so far. The one most frequently seen by divers, and the largest of all Frogfish species, is Commerson's Frogfish. It is capable of (slowly) changing colour to match its surroundings, but the commonest colours seen in the Maldives are black and orange. The smaller Warty Frogfish also comes in a variety of colours, but its patterning is fairly constant.

Warty Frogfish
Antennarius maculatus Bohmas 9cm



Commerson's Frogfish
Antennarius commersoni Bohmas 30cm



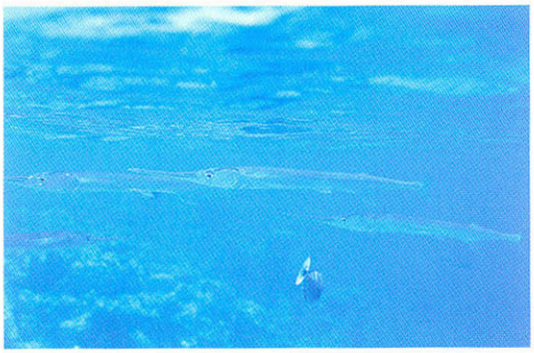
Commerson's Frogfish *Antennarius commersoni* Bohmas 30cm
I was photographing the Frogfish on the left when the second one walked over and joined in

Silverside
Hypoatherina barnesi Thaavalha 8cm

Silversides

ATHERINIDAE

Silversides feed on plankton at night. By day they form dense stationary schools, often in shallow lagoons next to island beaches. Silversides are also called Hardyheads. Both names are apt since these little fish do have tough silver scales and particularly bony heads. As a result some predators spurn them, but they are preyed upon by others, including Herons and Bluefin Jacks.

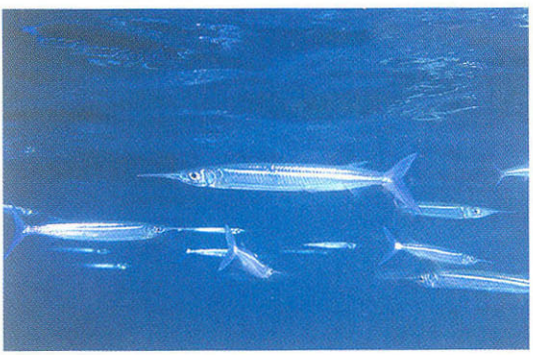


Needlefish
Tylosaurus crocodilus Tholi 1m

Needlefishes

BELONIDAE

Needlefishes usually occur in small schools just under the surface. They are sharp-toothed predators of small fish. They themselves are sometimes pursued by larger fish, at which times they can skitter across the surface of the water in their attempts to escape. One species can even glide rather like a flying fish, but using its body held in an S-shape (rather than its fins) as an aerofoil.



Dussumier's Halfbeak
Hyporhamphus dussumieri Bondibai tholi 30cm

Halfbeaks

HEMIRAMPHIDAE

Halfbeaks are specialized predators of the sea surface. They have a very long extension to their lower jaw, while the upper jaw is of more normal length. The result is a half-beaked effect, which allows them to pick small items of food on or just under the surface from below. They are one of the few groups of animals that prey on Sea Skaters, unique marine insects that live their entire lives on the sea surface.

Flashlight Fish
Photoblepharon steinizi (Baththi mas) 8cm

Flashlight Fishes

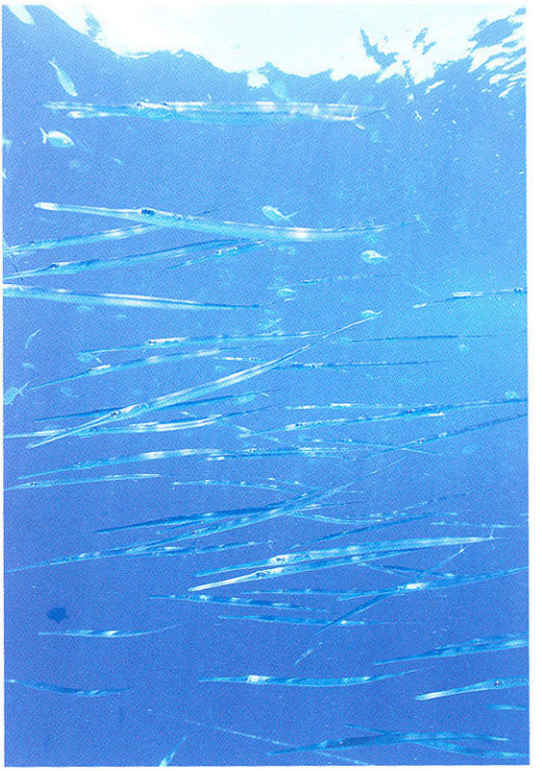
ANOMALOPIDAE

Flashlight Fishes are one of the most intriguing, and bizarre, of all reef fish families. They are strictly nocturnal, never being seen out before darkness falls. In the Maldives they are not easy to find but are most likely to be seen on moonless nights in caves on outer reef slopes. Their light is produced by bacteria, which live in a special pouch under the eye, and can be turned off (or at least blocked off) with a moveable flap of black skin.

FLUTEMOUTHS

FISTULARIIDAE

Flutemouths (also known as Cornetfishes) swim a bit above the bottom, frequently in small schools, and actively hunt small schooling fishes such as Silver Sprats. This species is commonest along the top of the reef dropoff, and has fine blue markings (which are only visible at close range). A second, red-marked species does occur in the Maldives, but it lives in very deep water. Flutemouths can be confused with Trumpetfishes, but are distinguished by their long pointed tails.



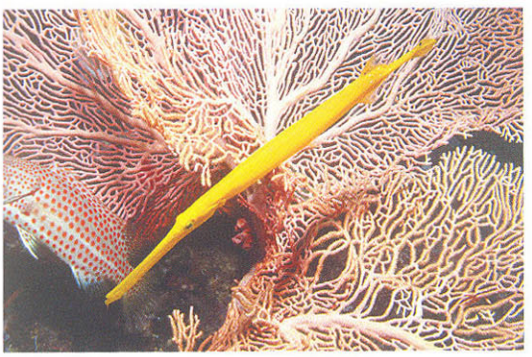
Flutemouth *Fistularia commersonii* Onugandu tholi 1m
Large individuals (left) are sometimes seen alone, but Flutemouths normally occur in schools (right)

TRUMPETFISHES

AULOSTOMIDAE

The Trumpetfish is a cunning hunter of small fishes. It normally hunts alone, frequently shadowing larger fish, notably Goatfish and Groupers, in order to sneak up on its prey. It occurs in grey and yellow colour phases, and individual Trumpetfishes choose an appropriately coloured fish to use as a stalking horse (see for example the Black-saddled Coral Grouper on page 34).

Trumpetfish
Aulostomus chinensis Onugandu tholi 60cm



Trumpetfish *Aulostomus chinensis* Onugandu tholi 60cm
When resting, Trumpetfishes often lie alongside seafans or black corals

Splendid Soldierfish *Myripristis botche* (Boa raiy dhanbodu) 20cm
Formerly known, and still often reported as, *Myrispristis melanosticta*

Whitetip Soldierfish *Myripristis vittata* (Hudhu kotari dhanbodu) 15cm
The smallest and perhaps the commonest Soldierfish in the Maldives

SOLDIERFISHES

HOLOCENTRIDAE

Soldierfishes are noctural plankton feeders. Much of the plankton hides in deep water or buried in sand during the day to avoid predators such as Anthias (page 37) or Fusiliers (page 49). At night it all comes out, providing a feast for Soldierfishes and other animals that are able to exploit it. Soldierfishes spend most of the daytime loitering on the reef, often in schools and under overhangs, with no apparent purpose. This is often a good indicator of nocturnal activity, since diurnal (day active) fish are usually busy throughout daylight hours. In additon, nocturnal fishes usually have big eyes, and many are coloured red. Large eyes can obviously make the most of what little light is available after sunset. Red colouration is not so obviously useful. However, red light is rapidly absorbed underwater, and so at depth and in low light conditions red fishes appear black and are effectively invisible. And it is this red colour that gives Soldierfishes their name, recalling the red-coated soldiers of the 18th and 19th centuries.

Shadowfin Soldierfish
Myripristis adusta (Hiyani dhanbodu) 20cm

Splendid Soldierfish
Myripristis botche (Boa raiy dhanbodu) 20cm

Yellowfin Soldierfish
Myripristis berndti (Reendhoo kotari dhanbodu) 20cm

Blotcheye Soldierfish
Myripristis murdjan (Berebedhi dhanbodu) 18cm

Whitetip Soldierfish
Myripristis vittata (Hudhu kotari dhanbodu) 15cm

Violet Soldierfish
Myripristis violacea (Vailet dhanbodu) 16cm

Blackfin Squirrelfish *Neoniphon opercularis* Raiverimas 30cm
Dorsal fin colouration is an important characteristic for identifying *Neoniphon* Squirrelfishes

Sabre Squirrelfish *Sargocentron spiniferum* Raiverimas 35cm
The largest Squirrelfish species, common in Maldives and regularly taken by night fishermen

SQUIRRELFISHES

HOLOCENTRIDAE

Squirrelfishes belong to the same family as the Soldierfishes (previous page). Both are nocturnal, but while Soldierfishes feed on plankton, Squirrelfishes range over the reef bottom in search of crabs, shrimps and worms. Squirrelfishes also have a more pointed snout than the blunt-faced Soldierfishes. Another difference between the two is the presence of a large, stout spine on the cheek of all Squirrelfishes. This spine is somewhat venomous, which is why Maldivian fishermen treat any Squirrelfish caught while night fishing with appropriate caution. This cheek spine also gives the Sabre Squirrelfish (page ii and bottom left) its name and the entire family its Maldivian name, *raiverimas*, 'toddy tapper fish'. The spine is supposedly similar in shape to the sharp curved knife used by toddy tappers for cutting down coconuts and scoring the tops of coconut trees to release the toddy. Squirrelfishes loiter by day in caves and crevices, beneath overhangs and large corals, often in small schools.

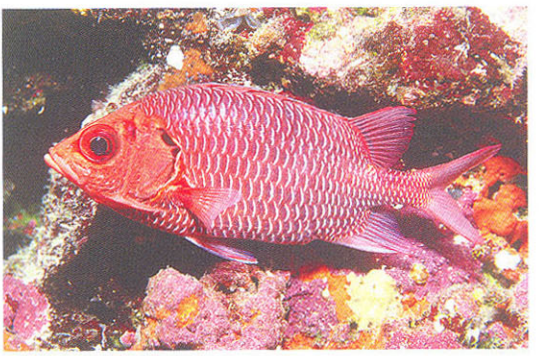
Goldline Squirrelfish
Neoniphon aurolineatus Raiverimas 22cm

Spotfin Squirrelfish
Neoniphon sammara Raiverimas 22cm

Silverspot Squirrelfish
Sargocentron caudimaculatum (Asdhannu raiverimas) 18cm

Crown Squirrelfish
Sargocentron diadema (Seetu raiverimas) 12cm

Black-spot Squirrelfish
Sargocentron melanospilos Raiverimas 22cm



Violet Squirrelfish
Sargocentron violaceum (Raiykirulhi raiverimas) 20cm

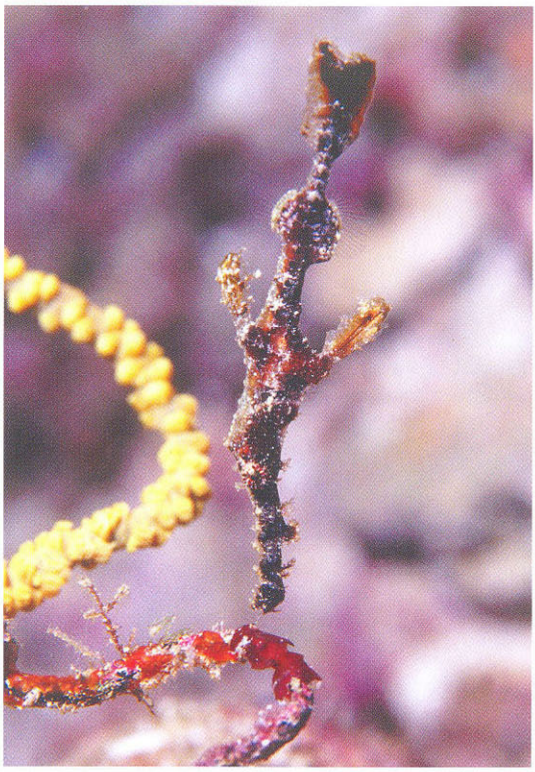
Ghost Pipefishes

SOLENOSTOMIDAE

The Ghost Pipefishes are closely related to the true Pipefishes (opposite), but among other differences have large pelvic fins, which are absent in Pipefishes. In addition, it is the female Ghost Pipefish that incubates their eggs, whereas in Pipefishes incubation is performed by the male. Ghost Pipefishes are superbly camouflaged hunters, using their long snouts to suck up tiny invertebrate animals. The Seagrass Ghost Pipefish, which mimics seagrass and usually lives in shallow lagoons, is the species most frequently seen in the Maldives. It is very difficult to spot, but sometimes gives itself away by staying still while loose bits of seagrass drift past. The other species found in the Maldives are just as difficult to find, but do tend to have very restricted lifestyle requirements. The Halimeda Ghost Pipefish is only found in close association with calcareous *Halimeda* algae, while the Ornate (or Harlequin) Ghost Pipefish is best searched for among the fronds of hydroids or featherstars.

Halimeda Ghost Pipefish
Solenostomus halimeda (Mashi asmas) 6cm

Seagrass Ghost Pipefish
Solenostomus cyanopterus (Huifathu asmas) 14cm



Ghost Pipefish
Solenostomus ?cyanopterus (Huifathu asmas) 14cm

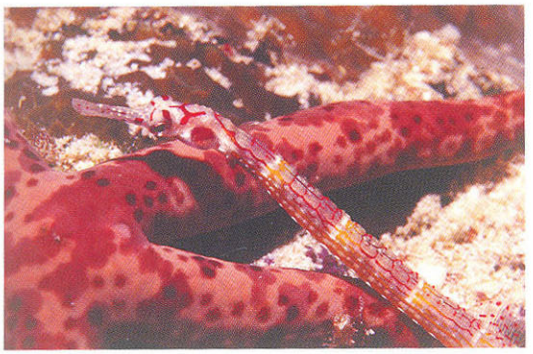
Ornate Ghost Pipefish
Solenostomus paradoxus (Keheri asmas) 10cm

PIPEFISHES

SYNGNATHIDAE

Pipefishes are known in Maldivian language by the delightful name of *venu bandeyri*, the eel's storekeeper. They feed on tiny shrimps and other animals living on or near the bottom. Pipefishes have an unusual system of reproduction, with the males carrying the eggs on a special belly patch or pouch until they hatch, as can just be seen on the Banded Pipefish (bottom left). Prior to mating and taking on the incubation of the eggs, the male courts the female with an elaborate dance (right).

Yellow-banded Pipefish
Corythoichthys flavofasciatus Venu bandeyri 18cm

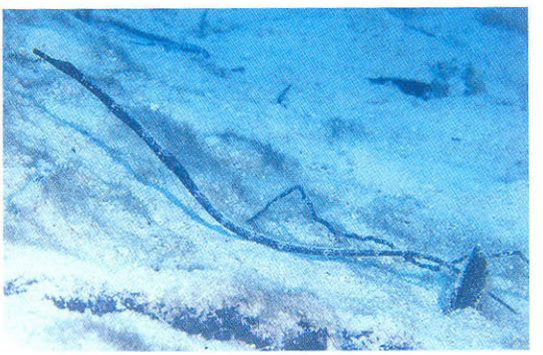


Island Pipefish
Corythoichthys insularis Venu bandeyri 10cm

Banded Pipefish
Dunkerocampus multiannulatus Venu bandeyri 18cm

Reeftop Pipefish
Corythoichthys haematopterus Venu bandeyri 15cm

Schultz's Pipefish
Corythoichthys schultzi Venu bandeyri 15cm



Stick Pipefish
Trachyrhamphus bicoarctatus Venu bandeyri 30cm

Common Lionfish *Pterois miles* Fanhaa mas 30cm
This species is often called *Pterois volitans*, but that name is best applied to the Pacific form

Common Lionfish *Pterois miles* Fanhaa mas 30cm
Juveniles (right) are usually dark and thought by some to mimic Featherstars

Spotfin Lionfish
Pterois antennata Fanhaa mas 15cm

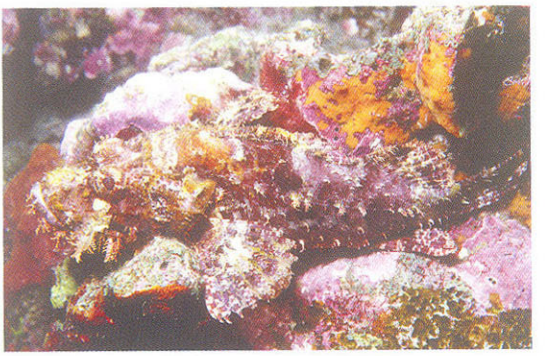
Whiteline Lionfish
Pterois radiata Fanhaa mas 15cm

SCORPIONFISHES

SCORPAENIDAE

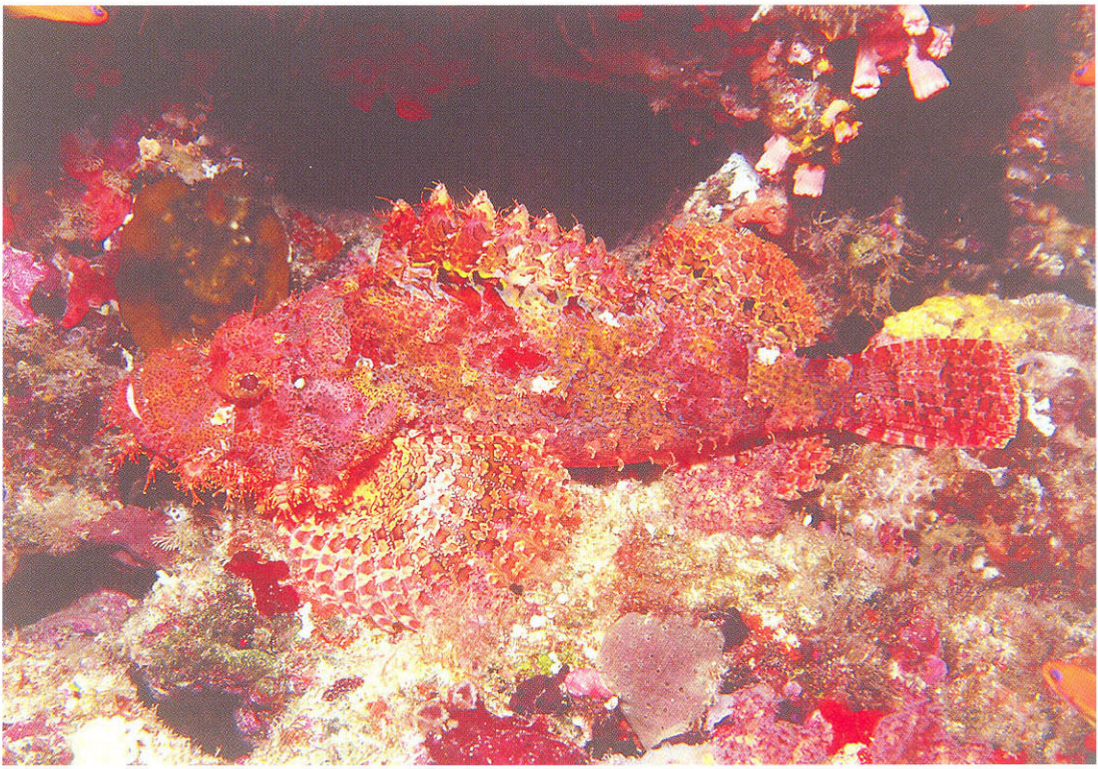
As their name suggests, Scorpionfishes pack quite a sting, as do the closely related Lionfishes (also known as Firefishes) and the notorious Stonefish. All of these fishes have venomous spines on their backs. The spines are a purely defensive mechanism, and these fish are not dangerous if not molested. The only people who are stung are underwater photographers who push Lionfishes too far in search of the perfect picture, and the very occasional reef walker unlucky enough to stand on a Scorpionfish or Stonefish. The pain is excruciating but fortunately there is an easy cure. The venom is a protein and denatured by heat, so immersing the afflicted part in hot water (about 42°C, *not* boiling) will bring immediate relief. Within this family, the Stonefish and Scorpionfishes themselves are lie-in-wait predators, relying on their superb camouflage to hide in the open while waiting for a small fish to wander within striking distance. In contrast, the Lionfishes are active hunters of small fish, using their fins to herd their prey into a corner.

Orange-nape Scorpionfish
Scorpaenopsis ?vitapinna Gaaviha mas 7cm

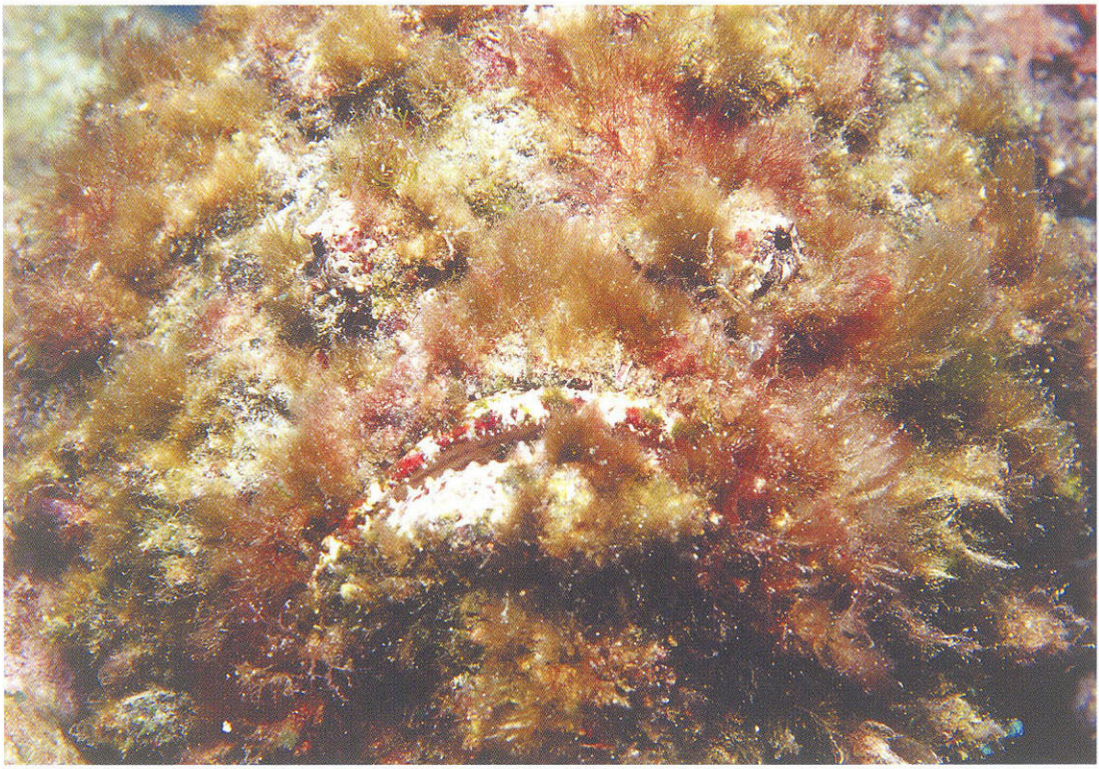


Reef Scorpionfish
Scorpaenopsis ?possi Gaaviha mas 20cm

Smallscale Scorpionfish *Scorpaenopsis oxycephala* Gaaviha mas 30cm
The beard-like tassels disguise the sharp outline of the jaw, improving the already superb camouflage



Smallscale Scorpionfish *Scorpaenopsis oxycephala* Gaaviha mas 30cm
This fish often appears rather dull pink; this individual was one of the brightest I have seen



Stonefish *Synanceia verrucosa* Gaaviha mas 30cm
Stonefish that sit out in the open become coated with seaweed, enhancing their already superb camouflage

Stonefish *Synanceia verrucosa* Gaaviha mas 30cm
The Maldivian name *gaaviha mas* translates literally as 'poison stone fish'

False Stonefish *Scorpaenopsis diabolus* Gaaviha mas 25cm
This fish just sits and waits; as a result it has a particularly small brain for its size. (Juvenile, right)

Leaf Fish
Taenianotus triacanthus (Viha faiymas) 10cm

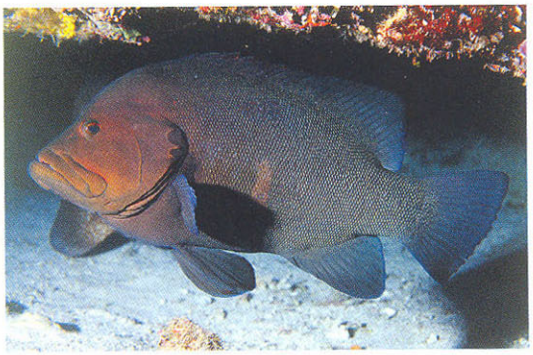
Leaf Fish *Taenianotus triacanthus* (Viha faiymas) 10cm
Moderately common in the Maldives, it occurs in several colour forms from near white to deep purple

Sixspot Rock Cod *Cephalopholis sexmaculata* Landaa faana 35cm
Most commonly seen in caves on the reef slope

GROUPERS

SERRANIDAE, EPINEPHELINAE

The Groupers and their relatives (Basslets, Soapfishes and Anthias, pages 35-37) all belong to one of the largest and most diverse of all fish families on Maldivian reefs. The Groupers themselves are voracious predators of small fishes. They are also the targets of a fishery which supplies the Chinese markets of East Asia. Maldivian fishermen catch Groupers while snorkelling, swimming above their intended prey and dangling a baited hook just in front of its mouth. Such fishermen are now a not uncommon sight around the atolls, with several fishermen swimming off from one boat, each towing a floating basket behind in which they keep their catch alive. This fishery, which started in 1994, is very selective in the sense that it only removes fish of commercial interest, resulting in little waste. On the other hand it also enables fishermen to pick out the best fish for capture, and as a result large Groupers are now much less common on Maldivian reefs than they used to be.



Redmouth Grouper
Aethaloperca rogaa Ginimas faana 40cm

Redmouth Grouper
Aethaloperca rogaa Ginimas faana 40cm

Slender Grouper *Anyperodon leucogrammicus* Boalhajehi faana 40cm
This species can change its colour to emphasize either its red spots or its white stripes

Leopard Rock Cod *Cephalopholis leopardus* Raiy thiki faana 18cm
Common on shallow reefs; identified by unique tail pattern

Peacock Rock Cod
Cephalopholis argus Mas faana 35cm

Vermilion Rock Cod (Juvenile)
Cephalopholis miniata Koveli faana 25cm

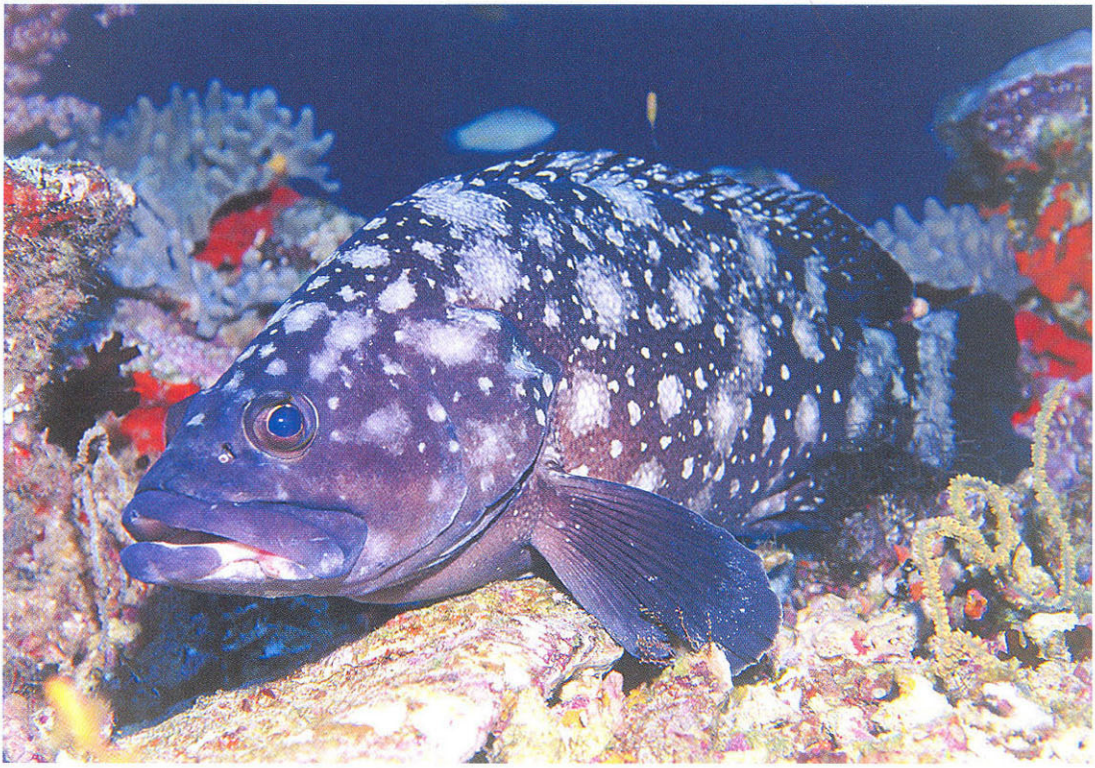
Vermilion Rock Cod *Cephalopholis miniata* Koveli faana 25cm
A common species, with a definite taste for small schooling fishes (right)

Sixspot Rock Cod
Cephalopholis sexmaculata Landaa faana 35cm

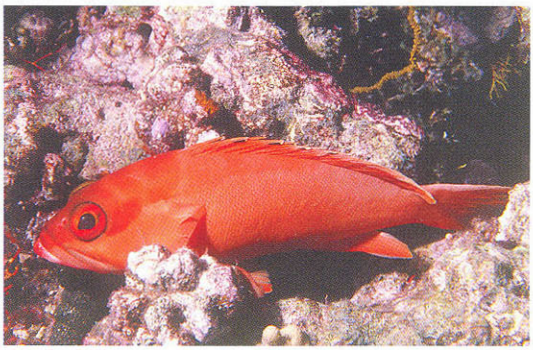
Strawberry Rock Cod
Cephalopholis spiloparaea Naaringu faana 18cm

Duskyfin Rock Cod *Cephalopholis urodeta* Kanfaiy kalhu faana 25cm
Sometimes referred to as *Cephalopholis nigripinnis*

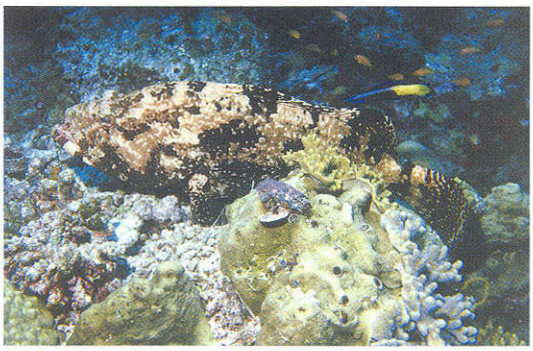
Tomato Rock Cod *Cephalopholis sonnerati* Veli faana 35cm
A distinctively deep-bodied species, usually seen below about 15m depth



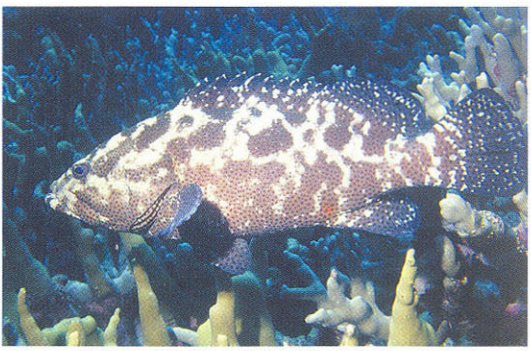
White-spotted Grouper *Epinephelus caeruleopunctatus* Hudhu lah faana 50cm
Widespread but most often seen on the sandy floor of overhangs on the reef slope



Blacktip Grouper *Epinephelus fasciatus* Raiy galhi faana 30cm
Can change colour between red, barred and masked, but the black tips to the dorsal fin are constant

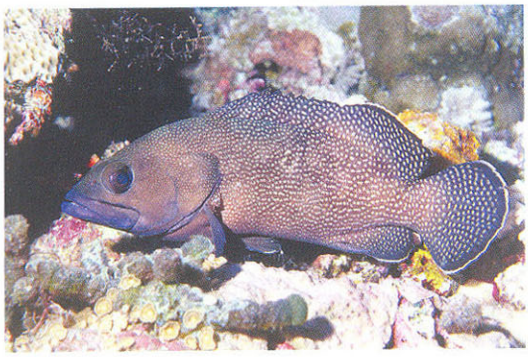


Brown-marbled Grouper
Epinephelus fuscoguttatus Babaru kas faana 90cm

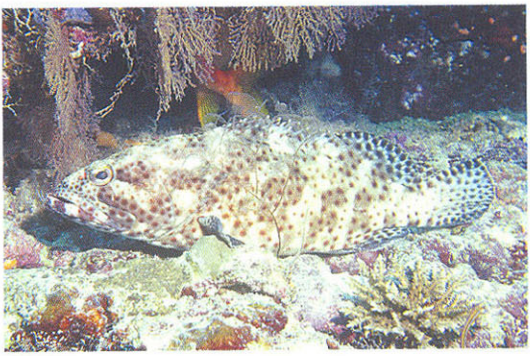


Camouflage Grouper
Epinephelus polyphekadion Kas faana 60cm

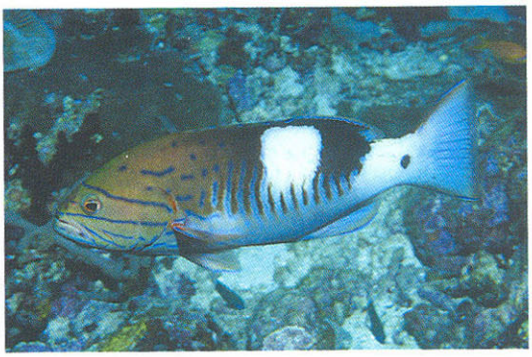
Four-saddle Grouper *Epinephelus spilotoceps* Asdhaanu faana 25cm
Very common in Maldives



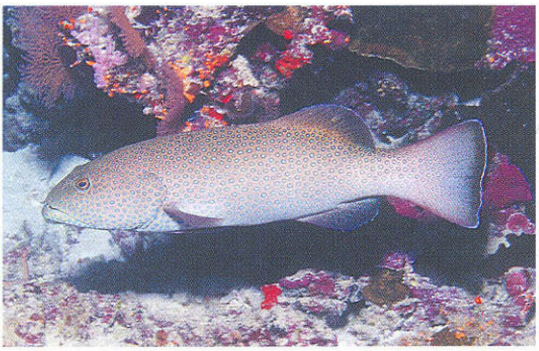
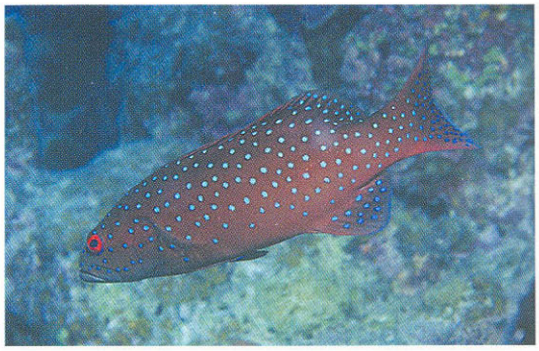
Speckled Grouper
Epinephelus ongus Kirulhi faana 50cm



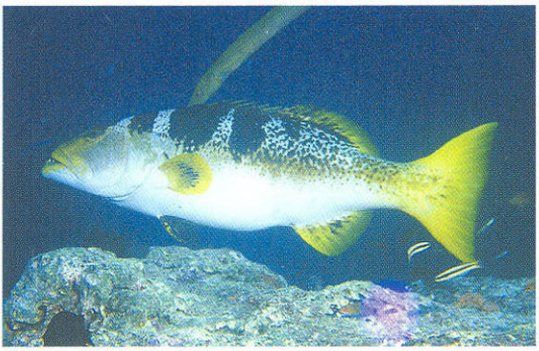
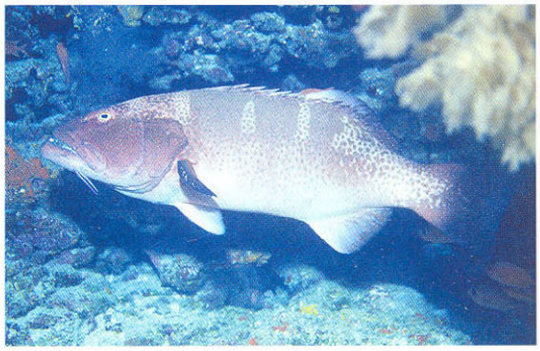
Greasy Grouper
Epinephelus tauvina Londhi faana 50cm



Masked Grouper *Gracila albomarginata* Boakuda faana 35cm
Also called the White-square Grouper, the white mark on its flank can be turned off at will

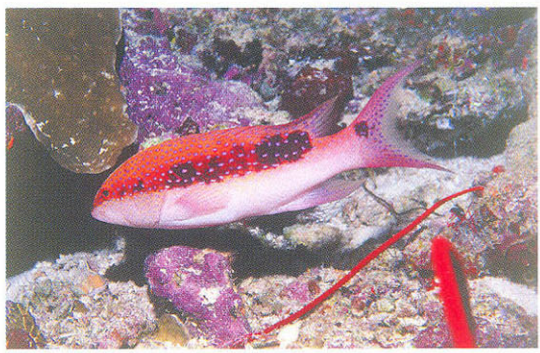
Squaretail Coralgrouper *Plectropomus areolatus* Olhu faana 60cm
Adult (left) and juvenile (right) both have dark-edged, round blue spots

Black-saddle Coralgrouper *Plectropomus laevis* Kandu rasgefaanu 90cm
A wide-ranging species with pale and dark colour phases

Roving Coralgrouper
Plectropomus pessuliferus Olhu faana 60cm

Whitemargin Lyretail Grouper
Variola albimarginata Kandu raiy haa 40cm



Yellowmargin Lyretail Grouper *Variola louti* Kandu haa 60cm
Juveniles (right) have a distinctive colour pattern, but their tail margins are only faintly yellow

BASSLETS

SERRANIDAE, LIOPROPOMATINAE

The Basslets, of which there are two species in the Maldives, are small relatives of the Groupers. They normally hide in the backs of caves and overhangs on the reef slope, so are easily overlooked. This particular species is confined to the western Indian Ocean, from the Maldives to the coast of East Africa (as suggested by the latin name).

Reef Basslet
Liopropoma africanum Kudhi faana 8cm

SOAPFISHES

SERRANIDAE, GRAMMISTINAE

The Soapfishes are so-called because they are coated with a thick layer of slimy mucus. This contains a bitter-tasting toxin, grammistin, which repels most predators. Soapfishes are not particularly common in the Maldives, but individuals tend to stay put on one bit of reef for extended periods, so if you find one it is likely to be in the same area on subsequent dives.

Barred Soapfish
Diploprion bifasciatus Londhimas 20cm

Sixline Soapfish *Grammistes sexlineatus* (Ran rongu londhimas) 15cm
This was a small individual; in large fishes there are more, broken lines

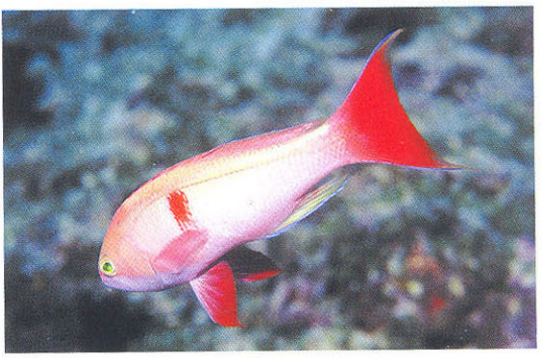
Threadfin Anthias *Nemanthias carberryi* Dhon bureki 9cm
Variable in colouration but distinguished by the thread-like extensions to the dorsal fin

Resplendent Anthias *Pseudanthias pulcherrimus* Dhon bureki 7cm
The specific name *pulcherrimus* appropriately means 'most beautiful'

ANTHIAS

SERRANIDAE, ANTHIINAE

Anthias or Fairy Basslets are small jewels of the coral reef. They occur in great swarms along current-swept reefs, where they feed on the plankton drifting past. They belong to the Grouper family and like Groupers change sex as they grow. However, in this case they start their adult lives as females, later becoming males. Both sexes are brightly coloured, although the males tend to outshine the females. Males also have particularly splendid dorsal fins which they use for showing off. A few species occur only on deep reefs below about 25m. This includes Cooper's Anthias (right), which was named for Cambridge zoologist Clive Forster-Cooper who took part in the first major biological expedition to the Maldives in 1899-1900 and later became Director of the Natural History Museum in London. The common Yellowtail Anthias (below) occurs in a range of depths and can be used to demonstrate the change of colour (through loss of red light) with water depth. In very shallow water (and in flash-lit photographs, as here) they appear yellow and purple; in deeper water they look yellow and blue.



Cooper's Anthias (Male)
Pseudanthias cooperi Dhon bureki 9cm

Cooper's Anthias (Female)
Pseudanthias cooperi Dhon bureki 9cm

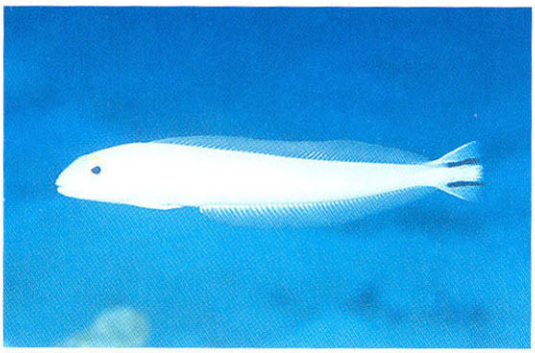
Yellowtail Anthias
Pseudanthias evansi Dhon bureki 9cm

Flame Anthias
Pseudanthias ignitus Dhon bureki 8cm

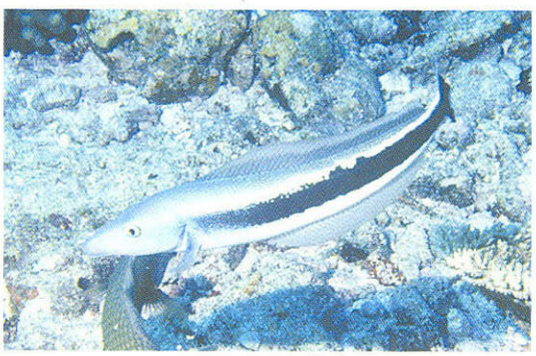
Orange Anthias *Pseudanthias squamipinnis* Dhon bureki 8cm
The common Anthias of Maldivian reefs; females (left) are much more abundant than males (right)

Green-and-gold Dottyback (Male)
Chlidichthys inornatus Hoholha mas 4cm

Comet
Calloplesiops altivelis (Dhunthari mas) 12cm



Flagtail Tilefish
Malacanthus brevirostris (Tailumas) 20cm



Striped Tilefish
Malacanthus latovittatus (Tailumas) 35cm

DOTTYBACKS

PSEUDOCHROMIDAE

Because of their small size and cave-dwelling habits, Dottybacks are not usually noticed by divers. But look carefully along the sides of large caves or overhangs on the reef slope and you should soon find one. This particular species appears green and gold in natural light, but under artificial light appears more uniform yellow.

LONGFINS

PLESIOPIDAE

Longfins are a minor family of small fishes, closely related to the Dottybacks. In the Maldives, both types of fish live in small caves or crevices on the reef slopes. When lurking in its den the Comet can appear like a White-mouth Moray (page 8), and it has been suggested that this is a form of mimicry that offers the Comet some protection from predation.

TILEFISHES

MALACANTHIDAE

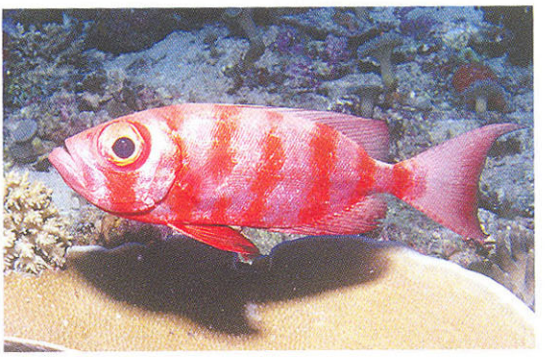
The Tilefishes or Blanquillos are a small family of mostly deep-water fishes. In the Maldives only the two species shown here regularly occur in normal diving depths. The deeper-dwelling species often build substantial nest mounds and sometimes occur in large numbers. In contrast these two species are normally seen in pairs and make more discreet burrows in the sand. The Flagtail Tilefish might be mistaken for a Dartfish (page 106) but it is a larger animal and has two black stripes on its tail that are diagnostic. Striped Tilefishes (also called Blue Blanquillos) are regularly mistaken for giant Cleaner Wrasses (see page 80), but are an entirely different sort of fish. Both these species of Tilefish feed on bottom dwelling animals particularly small crustaceans which they pick from the sand, but the Flagtail Tilefish is also known to take some zooplankton.

BIGEYES

PRIACANTHIDAE

As their name suggests, Bigeyes are nocturnal. They are sometimes also called Glasseyes, Goggleyes or Bullseyes. To further aid night vision they have a special reflective layer at the back of the eye, which allows them to make the most efficient use of even the dimmest light. This reflective layer is called the *tapetum lucidum*, and sometimes shows up brilliantly in torchlight during night dives. Throughout the day they loiter on the reef, sometimes in schools, waiting for night to fall. After dark they feed on bottom-dwelling invertebrates, particularly crustaceans, and also in midwater on zooplankton. The Crescent-tail Bigeye is the common species on Maldivian reefs, occurring at all snorkelling and diving depths. But look out also for the much rarer Round-tail Bigeye (upper right), which is more likely to be seen below about 20m. Although usually plain red, Bigeyes can rapidly change colour, becoming partly or fully silver. They also sometime adopt a barred patterning (right).

Round-tail Bigeye
Priacanthus blochii Hugu mas 30cm



Crescent-tail Bigeye
Priacanthus hamrur Hugu mas 35cm

Crescent-tail Bigeye *Priacanthus hamrur* Hugu mas 35cm
The red fish in the foreground and the silver ones in the background are the same species

Narrowstripe Cardinalfish
Apogon angustatus Boadhi 8cm

Broadstripe Cardinalfish
Apogon nigrofasciatus (Fulhaarongu boadhi) 8cm

Bluespotted Cardinalfish
Apogon apogonides Boadhi 8cm

Singlestripe Cardinalfish
Apogon fraenatus Boadhi 8cm

Yellowfin Cardinalfish *Apogon kallopterus* Lah boadhi 12cm
Smaller individuals (left) have heavier markings than mature adults (right)

Long-spine Cardinalfish
Apogon leptacanthus Boadhi 5cm

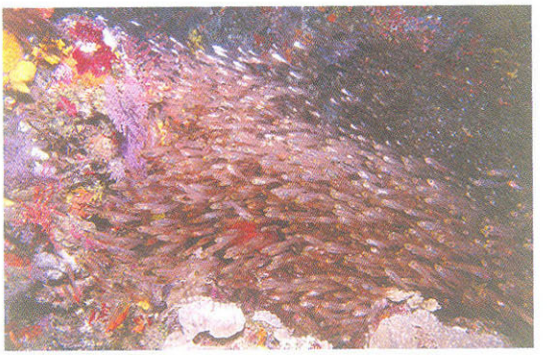
Dusky Cardinalfish
Apogon ?bandanensis Boadhi 7cm

CARDINALFISHES

APOGONIDAE

In other parts of the World several species of Cardinalfish are bright red, and it is this that gives the family its name. Cardinalfishes are nocturnal, feeding mainly on crustacean plankton. The larger Wolf and Tiger Cardinalfishes (*Cheilodipterus* species) also take small fishes. Schooling varieties, and in particular *Rhabdamia cypselura* (lower right), are important as live bait in the Maldivian tuna fishery. Cardinalfishes indulge in the somewhat bizarre, but nevertheless effective, reproductive strategy of mouth brooding. The male holds a bundle of fertilized eggs in his mouth until they hatch, thereby protecting them from the dangers of life in the open. Despite their diversity in the Maldives, with over 40 species recorded, Cardinalfishes are definitely low on most divers' lists of must-see priorities. This is a shame because, in addition to their fascinating life histories, there are almost certainly new species still awaiting discovery. Many species look very much alike, leading to considerable confusion, so the scientific classification of Cardinalfishes is likely to undergo much revision in the years ahead.

Orange-lined Cardinalfish
Archamia fucata Lah fathaa 7cm

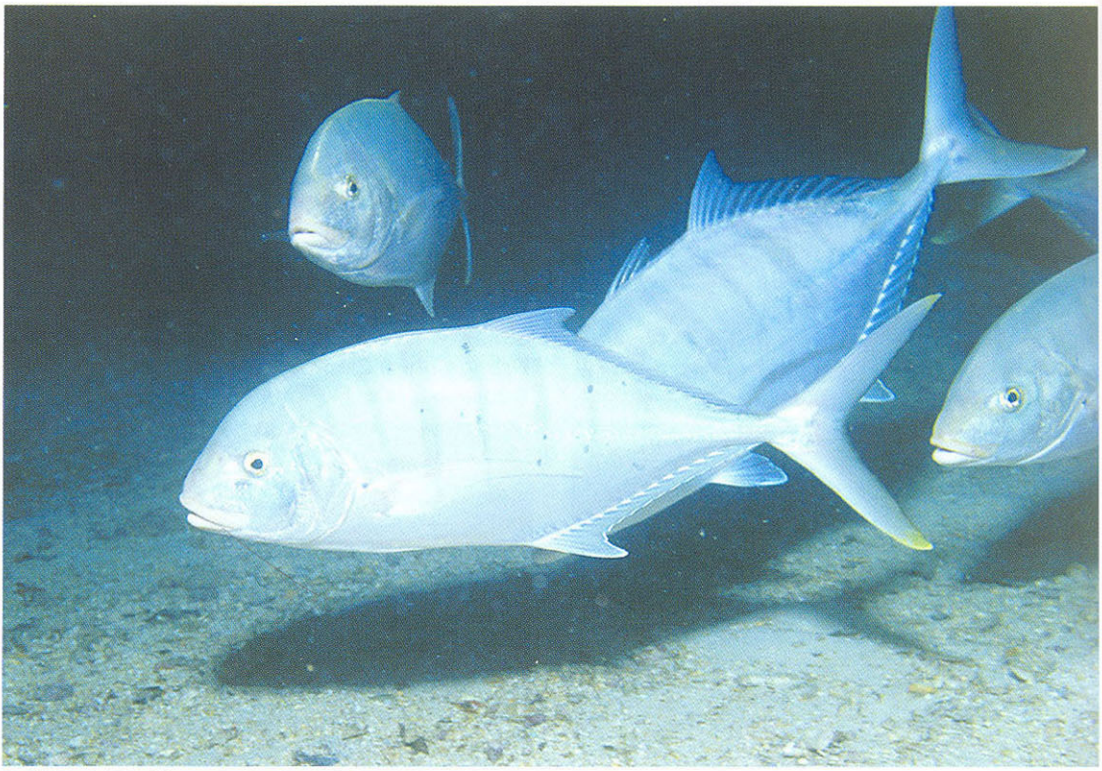


Schooling Cardinalfish
Rhabdamia cypselura Boadhi 5cm

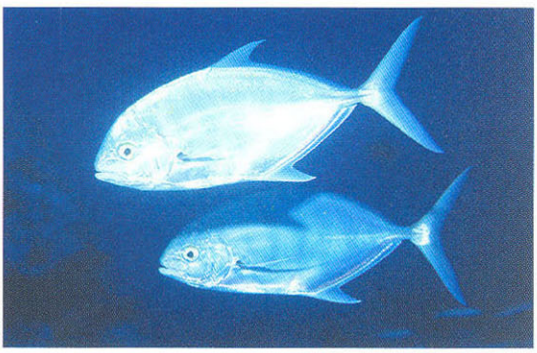
Tiger Cardinalfish *Cheilodipterus macrodon* Vadaan kashi 20cm
Young individuals (right) have yellow on the face and a large black spot near tail

Wolf Cardinalfish
Cheilodipterus artus Vadaan kashi 12cm

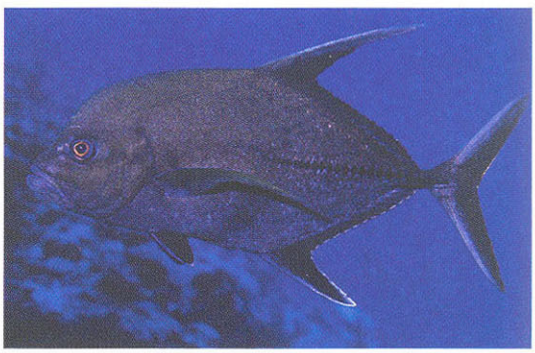
Fiveline Cardinalfish
Cheilodipterus quinquelineatus Vadaan kashi 10cm



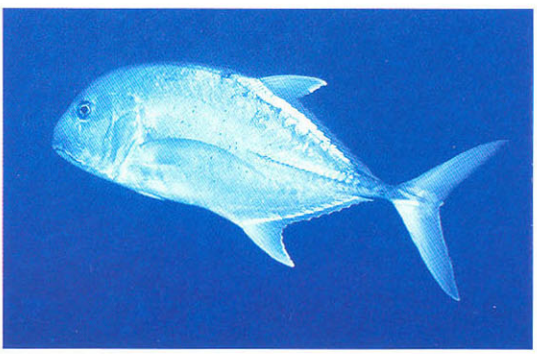
Golden Trevally *Gnathodon speciosus* Libaas handhi 80cm
Small juveniles are bright golden-yellow and often swim with larger fishes

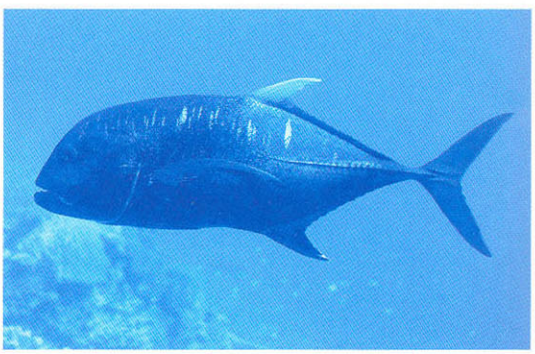


Blue Trevally
Carangoides ferdau Dhabaru handhi 50cm



Black Jack
Caranx lugubris Kalha handhi 50cm



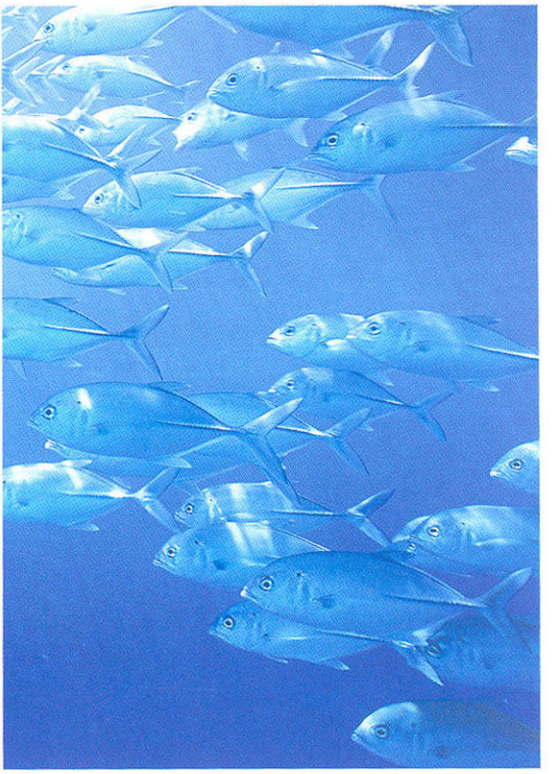


Giant Jack *Caranx ignobilis* Muda handhi 1.3m
Typically silver coloured (left) but mature males can turn black (right)

JACKS

CARANGIDAE

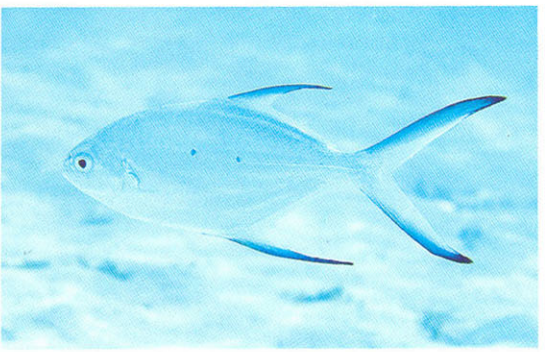
When schools of small fish explode at the surface, individual fish jumping out of the water in all directions, it is nearly always hunting Jacks that are responsible for the panic. Jacks (also known as Trevallies) are remorseless hunters of small reef fishes. They in turn are preyed upon by larger fish such as Sharks, and by Maldivian fishermen (becoming a regular feature of Maldivian resort and safari boat fare). Most Jacks are variations on a silver theme (with the obvious exception of the deep-dwelling Black Jack). However, near-black individuals are sometimes seen closely following a more typical silver fish of the same species. The black colouration indicates a male with sex on his mind. How do I know this? First, in fishes generally the female releases the eggs and then the male fertilizes them. So in a mating pair it is to be expected that the fish in the lead should be a female. Secondly, during the course of my studies in the Maldives I have had the opportunity to cut open several hundred Jacks of many species. The black tinted ones are always mature males.



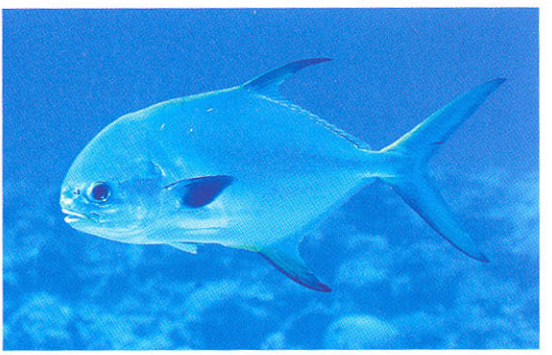
Bigeye Jack
Caranx sexfasciatus Haluvimas 60cm

Bluefin Jack
Caranx melampygus Fani handhi 60cm

Rainbow Runner
Elagatis bipinnulata Maaniyamas 80cm



Small-spotted Dart
Trachinotus bailloni Goru vaali 30cm



Goldfinger Dart
Trachinotus blochii Rindha vaali 60cm

Striped Remora
Echeneis naucrates Attamas 60cm

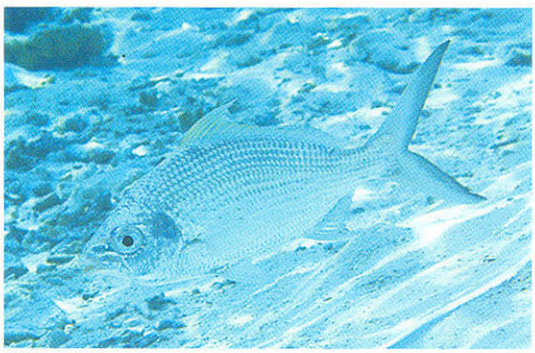
Striped Remora
Echeneis naucrates Attamas 60cm

REMORAS

ECHENEIDAE

The Remoras or Sucker-fishes have a large adhesive disc on the top of their heads. They use this to attach themselves to larger fishes such as sharks and rays, as well as turtles, whales and dolphins. This gives them free transportation and the chance to scavenge scraps of food. Remoras will also scavenge around the stern of anchored safari boats, paying close attention to any swimmers or snorkellers who jump in. Large numbers congregate at regular mooring sites used by the fish collecting vessels which buy tuna from the local fishermen. Remoras are particularly slimy fishes, with more than an average coat of mucus. This mucus is believed to contribute to the energy efficiency of their chosen mode of transport. Remoras are called *attamas* in Maldivian, a name that can also be applied to clinging people.

Slender Silverbiddy
Gerres oblongus Uniya 25cm



Longtail Silverbiddy
Gerres longirostris Uniya 25cm

SILVERBIDDIES

GERREIDAE

In common with so many other fishes of sandy lagoon areas, and in keeping with their name, Silverbiddies (also known as Mojarras) are indeed silver. In certain lights this silver colouration makes them almost invisible against a white sand background. This also gives them a rather uniform appearance, which can make identifying the different species rather tricky. Look for differences in body depth and fin ornamentation. The Slender Silverbiddy has faint brown spots on its sides and a white lower margin to its caudal fin (tail). In contrast, the Longtail Silverbiddy has a dusky rear margin to its caudal fin. Silverbiddies feed on worms and other small animals buried beneath the bottom, which they sift from mouthfuls of sand.

SNAPPERS

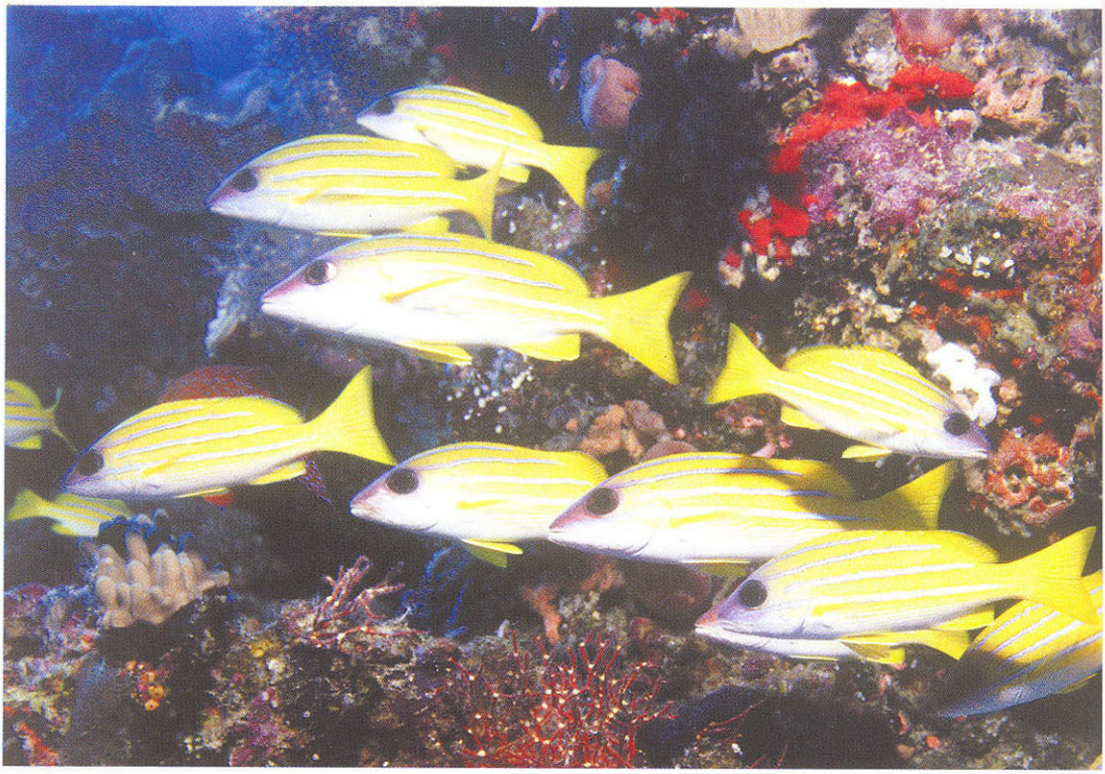
LUTJANIDAE

Throughout the tropics Snappers are among the most important of all food fishes. The Maldives is no exception, although Maldivians' historic preference for tuna means that Snapper populations here have not been overfished as they have in many other countries. Because so many species of Snapper are caught by local fishermen, they nearly all have individual Maldivian names. Perhaps because of this there is no local family name, although the term *raiy mahuge aila* ('red snapper family') is sometimes used. This name reflects the importance of the Two-spot Red Snapper (*raiy mas*, overleaf) to both commercial and recreational fishermen. Many species of Snapper are nocturnal, so fishermen catch them by night handlining. As with so many other nocturnal fishes, Snappers form large stationary schools by day. This makes them favourites with divers too. Schools often assemble near large outcrops on the reef, and can be seen at the same spot every day, making one wonder how many years or centuries fish have congregated in exactly the same location.

Smalltooth Jobfish
Aphareus furca Keyolhu rovvi 35cm

One-spot Snapper
Lutjanus monostigma Dhon filolhu 50cm

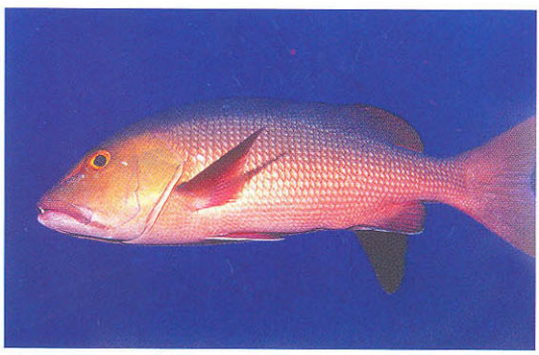
One-spot Snapper *Lutjanus monostigma* Dhon filolhu 50cm
Despite the name, this species only occasionally has a black spot on its side

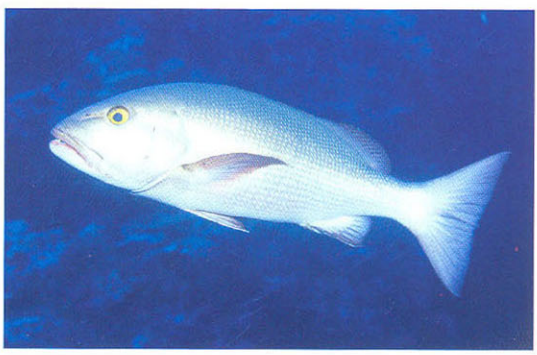


Kashmir Snapper *Lutjanus kasmira* Dhon reendhoomas 25cm
One of the commonest Snappers in the Maldives

Bengal Snapper
Lutjanus bengalensis Kuda dhon reendhoomas 15cm

Two-spot Snapper
Lutjanus biguttatus Bodu reendhoomas 20cm





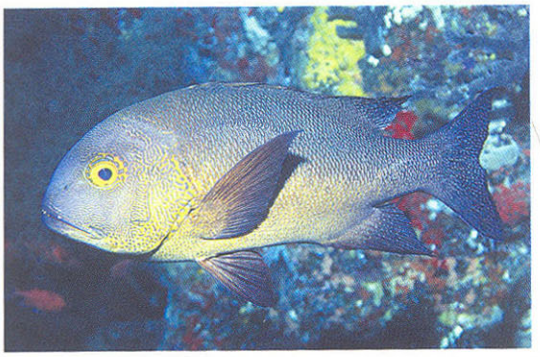
Two-spot Red Snapper *Lutjanus bohar* Raiymas 60cm
Colour quite variable from dark red to very pale, almost grey; only juveniles have two white spots

Blackspot Snapper
Lutjanus fulviflamma Dhon filolhu 30cm

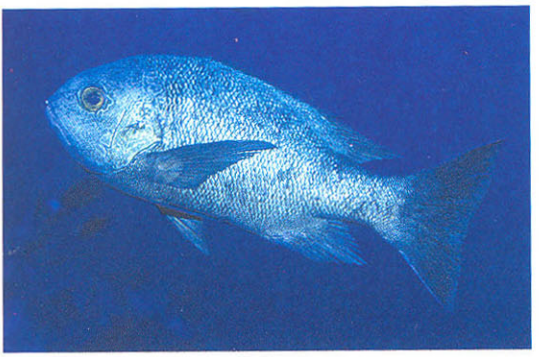
Blacktail Snapper
Lutjanus fulvus Dhon mas 25cm

Humpback Red Snapper
Lutjanus gibbus Ginimas 25cm

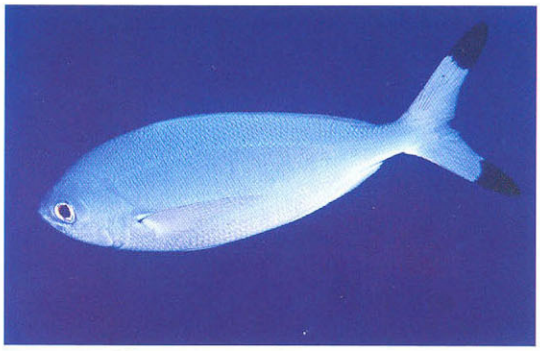
Madras Snapper
Lutjanus madras (Madharaasee mas) 25cm



Midnight Snapper *Macolor macularis* Foniyamas 40cm
Adults often solitary, juveniles (right) with long fins and little white behind head



Black-and-white Snapper *Macolor niger* Foniyamas 40cm
Adults in schools, juveniles (right) with short fins and continuous white bar behind head



Lunar Fusilier
Caesio lunaris Noo mas 30cm

Yellowback Fusilier
Caesio xanthonota Dhon noo mas 30cm

Neon Fusilier *Pterocaesio tile* Garahitha muguraan 20cm
Named for the neon-blue side streak, which is on display only part of the time

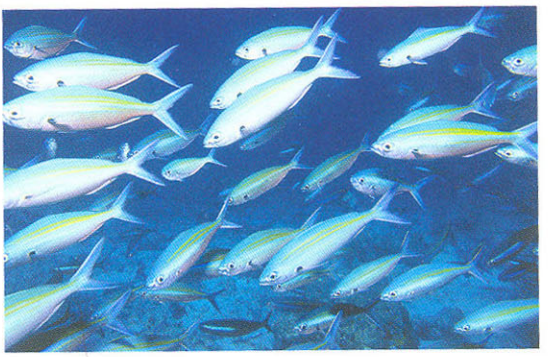
Neon Fusilier *Pterocaesio tile* Garahitha muguraan 20cm
During the daytime they appear mostly pale blue, but at night (above, right) their bellies turn crimson

FUSILIERS

CAESIONIDAE

Fusiliers are named after the brightly uniformed soldiers of the 18th and 19th centuries. They are so closely related to the Snappers (previous page) that there is still debate among ichthyologists as to whether they should be classified in one family or two. Unlike the mostly bottom-feeding Snappers, Fusiliers are schooling plankton-eaters, and are most abundant in areas of strong current. The presence of feeding schools of Fusilers (frequently betraying themselves with a slight disturbance on the surface) is therefore often an indicator of a good divesite. When dense schools of Yellowback Fusiliers are feeding just under the surface, they show up not just as a ripple but as a bright yellow stain that can easily be seen from boats or even airplanes. Juvenile Fusiliers are very important as live bait for the Maldivian tuna fishery, being the second largest component of bait catches after the Silver Sprat (page 11). Small juveniles are used to catch Skipjack Tuna, while larger individuals are excellent bait for Yellowfin Tuna.

Variable-lined Fusilier
Caesio varilineata Muguraan 25cm

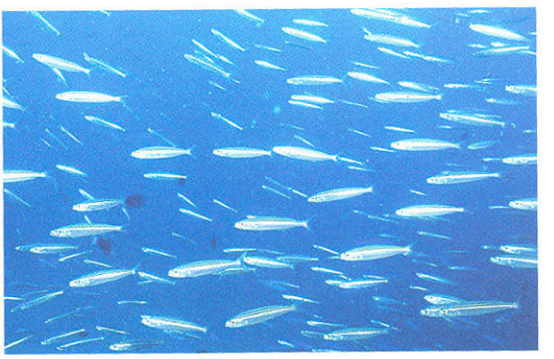


Variable-lined Fusilier
Caesio varilineata Muguraan 25cm

Broad-stripe Fusilier
Pterocaesio lativittata Muguraan 15cm

Red Fusilier
Pterocaesio pisang Raiy muguraan 18cm

Striped Fusilier
Pterocaesio trilineata Muguraan 15cm



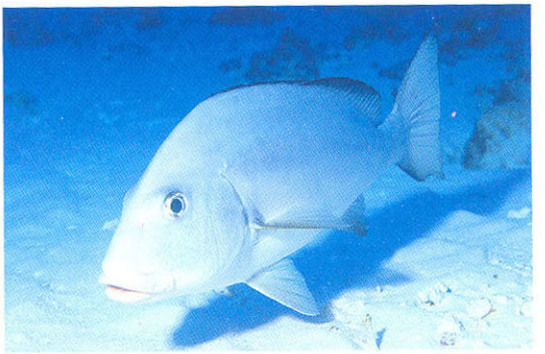
Slender Fusilier
Gymnocaesio gymnoptera Muguraan 15cm

Oriental Sweetlips *Plectorhinchus vittatus* Kandu guruva 50cm
Frequently reported under its old name of *Plectorhinchus orientalis*

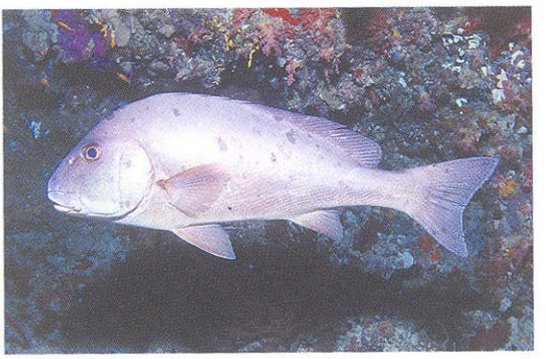
SWEETLIPS

HAEMULIDAE

According to Maldivian legend, there was once a Heron that was too proud to eat anything but the most beautiful fish in the sea. And that fish was the *kandu guruva* (Oriental Sweetlips). Unfortunately for the Heron, the *kandu guruva* lived too deep for him to catch. The Heron would not touch any lesser fish so he wasted away and eventually died, an object lesson against pride and self-importance. Sweetlips themselves are nocturnal hunters, preying on a variety of small creatures on the reef and adjacent sand flats. During the daytime they lie sedately in midwater or under overhangs, calmly biding their time until sunset. In contrast to the serene-looking adults, small juvenile Sweetlips typically perform a vigorous, nonstop, head-down flapping dance. Why such small and apparently vulnerable fishes should draw attention to themselves in this way is not known, but one possibility is that they are mimicking toxic flatworms. And yes, Sweetlips do take their name from those delectable lips, which would put any cinema starlet to shame.



Painted Sweetlips
Diagramma pictum Kilanbu guruva 80cm

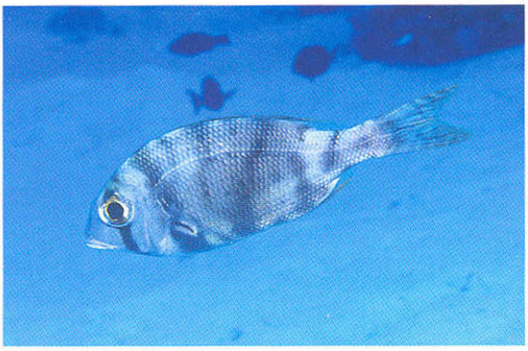


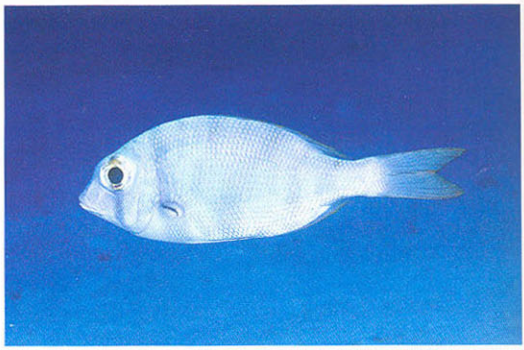
Painted Sweetlips
Diagramma pictum Kilanbu guruva 80cm

Harlequin Sweetlips *Plectorhinchus chaetodonoides* Galu guruva 60cm
Adults often form small schools, while younger individuals (right) are solitary

Oriental Sweetlips (Juvenile)
Plectorhinchus vittatus Kandu guruva 50cm

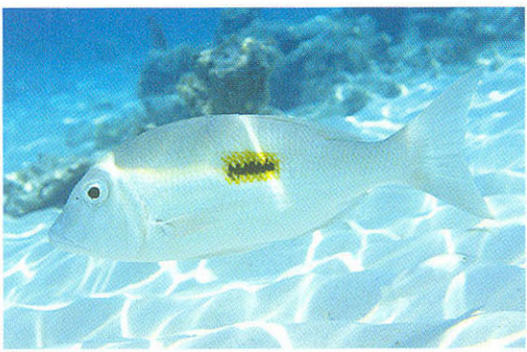
Grey Sweetlips
Plectorhinchus gibbosus (Alhi guruva) 60cm



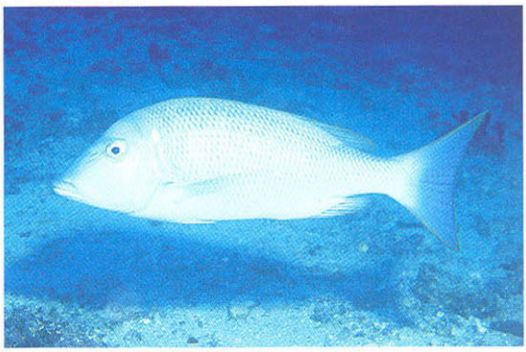


Large-eye Emperor *Gymnocranius elongatus* Kandu uniya 35cm
In common with many Emperors, can change from silvery to mottled

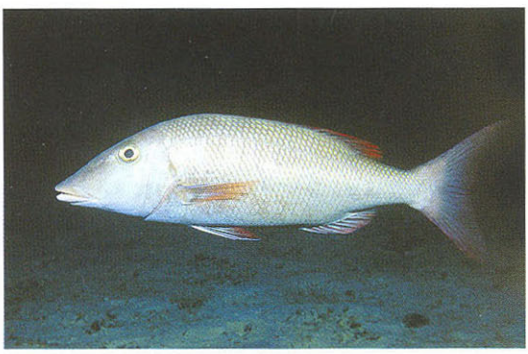
Orange-fin Emperor *Lethrinus erythracanthus* Boli-ke 50cm
Adult left, juvenile right. A common and usually solitary reef species

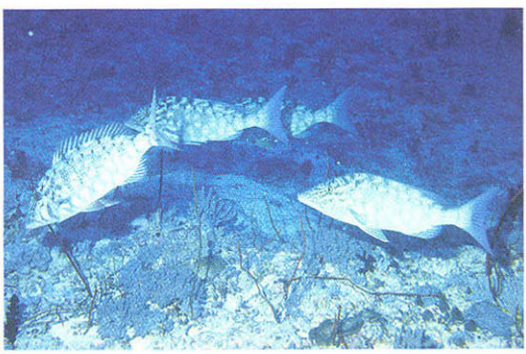


Blackspot Emperor
Lethrinus harak Lah filolhu 30cm



Spangled Emperor
Lethrinus nebulosus Filolhu 35cm





Smalltooth Emperor *Lethrinus microdon* Filolhu 35cm
Smaller than Longface Emperor (opposite), with reddish fins and three lines radiating from eye

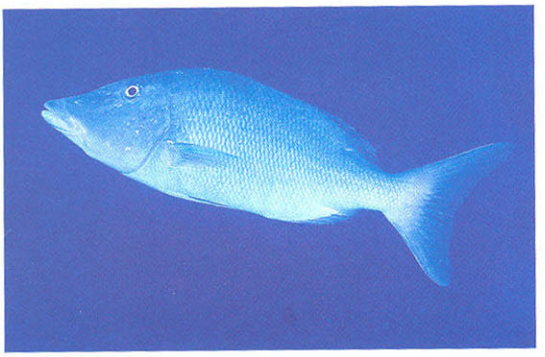
EMPERORS

LETHRINIDAE

For fishes with such a grand name, Emperors are remarkably non-descript. Many species, particularly those in the genus *Lethrinus* are difficult to tell apart. Overall colouration is a poor guide as they all have a rather bland sandy-grey base colour (which they can all change to a mottled pattern within seconds). Look instead for snout shape, and bright colour details on the fins, sides and lips. One of the more distinctive species, the Orange-fin Emperor, rejoices in the Maldivian name of *boli-ke*. This translates as 'shell-eater', which is exactly what it is. Prize cowrie shell specimens have been recovered from the stomach of this fish. A few of the other species are more easily recognized, including the Gold-striped Emperor (right). This is a common schooling species that can appear silvery grey or brown, but always has a bright yellow spot on its back near its tail, which gives it the alternative name of Glowfish. This species is a nocturnal predator, as are the other Emperors.

Gold-striped Emperor
Gnathodentex aureolineatus Boda handhi 15cm

Orange-stripe Emperor *Lethrinus obsoletus* Filolhu 30cm
A common reef species, usually seen by itself, only rarely in small schools



Longface Emperor
Lethrinus olivaceus Kashi thun filolhu 80cm

Ornate Emperor
Lethrinus ornatus Filolhu 35cm

Bigeye Bream *Monotaxis grandoculis* Dhongu 40cm
These four photos illustrate the changes in appearance that can occur within one species

Bigeye Bream *Monotaxis grandoculis* Dhongu 40cm
Shape changes with age, from relatively delicate juveniles (left) to thickset adults (right)

Orangestripe Spinecheek
Scolopsis auratus Dhon kandu uniya 20cm

THREADFIN BREAMS

NEMIPTERIDAE

The Threadfin Breams or Spinecheeks are closely related to the Emperors. They normally feed on small animals hidden in sand. The Orangestripe Spinecheek is uncommon in the Maldives and most likely to be seen over sand near the base of reef slopes inside the atoll. The Two-lined Monocle Bream is more common and is regularly seen even in shallow waters. Both species are normally solitary, although sometimes seen in pairs.

Two-lined Monocle Bream *Scolopsis bilineatus* Kiru bodahandhi 15cm
Juveniles (right) mimic the venomous Smith's Sabretooth Blenny (page 93)

SWEEPERS

PEMPHERIDAE

The Sweepers are one of several families of nocturnal plankton-feeders. Blunt snouts are a feature of such fishes, apparently allowing them to see their tiny food items up close, literally under their noses, even in very poor light (compare for example the Soldierfishes, page 19). By day Sweepers rest in caves and crevices, *Pempheris* species gathering in small groups while Slender Sweepers form dense schools. These schools usually attract a retinue of predatory Groupers, which loiter patiently nearby, angling for a snack. Redmouth Groupers and Vermilion Rockcods (pages 29 and 30) are particularly adept at this type of hunting, and their presence appears to keep their prey schools tightly packed. Maldivian tuna fishermen complain that fishing for Groupers has reduced the density of small fish schools, sometimes making it difficult for them to catch sufficient livebait for tuna fishing.

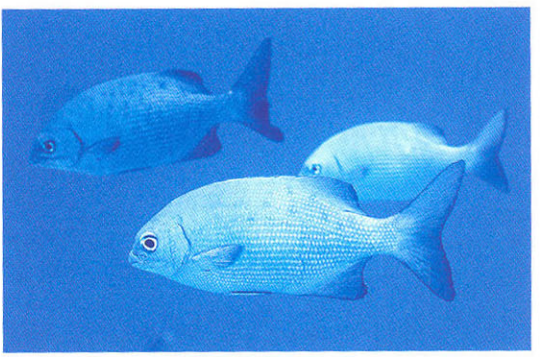
Slender Sweeper
Parapriacanthus ransonneti Baraki 6cm

Vanikoro Sweeper
Pempheris vanicolenis Baraki 15cm

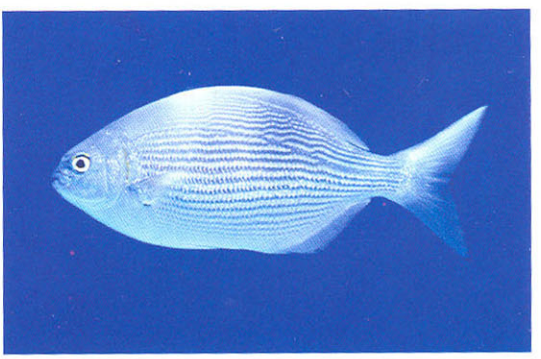
RUDDERFISHES

KYPHOSIDAE

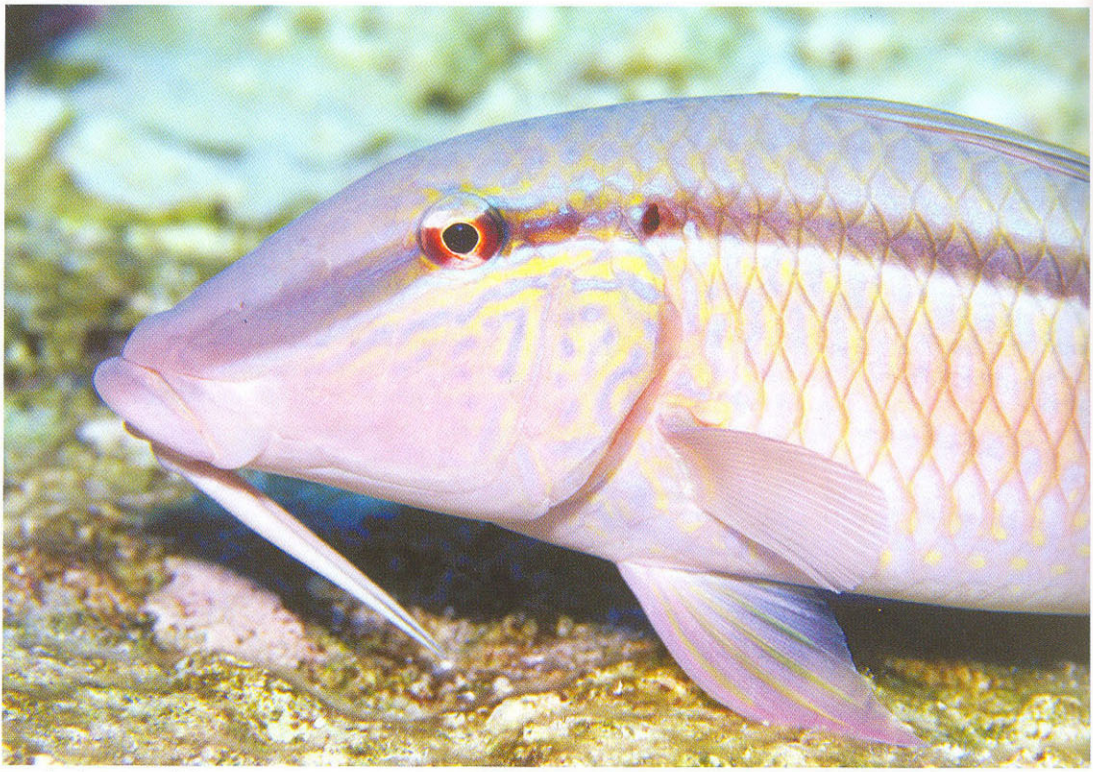
The Rudderfishes are also sometimes called Chubs or Drummers. The two common Maldivian species can be distinguished by the size of their posterior fins. *Kyphosus vaigiensis* is sometimes called the Lowfin Rudderfish, but two 'lowfin' species occur in the Maldives. These species are common on the reefs but they also occur out in the ocean, often drifting under floating objects. The name Rudderfish apparently comes from their habit of trailing slow moving sailing ships in earlier times, taking station near their rudders. These days they are more likely to be seen near resort jetties, maintaining position against the current and waiting for a free meal. A supply of bread from the resort dining room will certainly bring Rudderfish and many other species to the jetty. However, this does nothing for the fishes' digestion and disrupts their normal behaviour, so such fish feeding cannot be recommended.



Highfin Rudderfish
Kyphosus cinerascens Kirulhiya mas 30cm



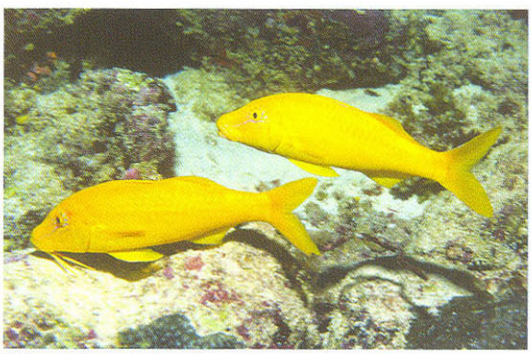
Brassy Rudderfish
Kyphosus vaigiensis Kirulhiya mas 40cm



Dash-dot Goatfish *Parupeneus barberinus* (Maa kalhuoh) 45cm
This is the largest Goatfish of Maldivian reefs

Dash-dot Goatfish
Parupeneus barberinus (Maa kalhuoh) 45cm

Longbarbel Goatfish
Parupeneus macronemus (Kandu kalhuoh) 30cm



Yellow-saddle Goatfish *Parupeneus cyclostomus* Ran kalhuoh 35cm
Occurs in both grey-purple and yellow colour phases

GOATFISHES

MULLIDAE

The goat-like 'beard' that gives Goatfishes their name is actually something of an external tongue. It consists of two barbels, both of which are packed with sensory cells akin to taste buds. Goatfishes use these barbels to snuffle through the sand, hunting out small animals to eat. Wrasses and other fishes often follow close behind, in the hope of stealing a snack. Goatfishes are day-active, sleeping at night. Their bulldozering feeding action stirs up the silt, perceptibly reducing visibility at least in sheltered lagoons by the afternoon. Perhaps because Goatfishes are bottom-dwellers they never normally jump out of the water. But according to one version of the local legend, the great national hero Mohamed Thakarufaanu (who liberated the Maldives from Portuguese occupation in 1573) saw one jump when planning his guerrilla campaign. Taking this as a good omen he named his new boat *Kalhuoh Fummi* (Goatfish Jumping). It subsequently carried him through many adventures to final victory, becoming the most famous vessel in Maldivian history.

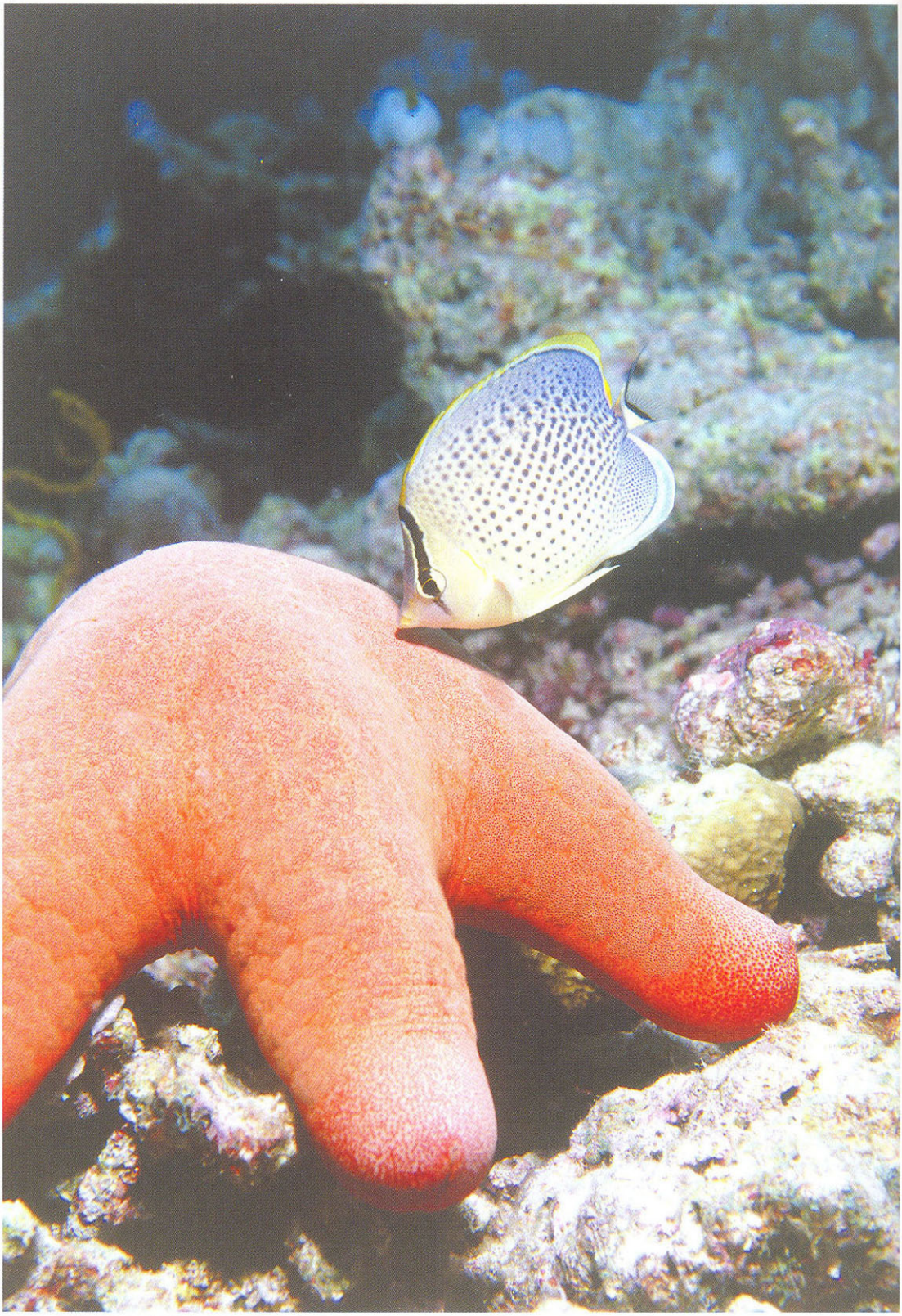
Barred Goatfish
Parupeneus trifasciatus (Asdhaanu kalhuoh) 30cm

Sidespot Goatfish
Parupeneus pleurostigma (Lah kalhuoh) 25cm

Lagoon Goatfish
Upeneus taeniopterus (Kattafulhi kalhuoh) 30cm

Yellowfin Goatfish
Mulloidichthys vanicolensis Kalhuoh 35cm

Yellowstripe Goatfish *Mulloidichthys flavolineatus* Kalhuoh 35cm
The black spot on the side can be turned on and off at will



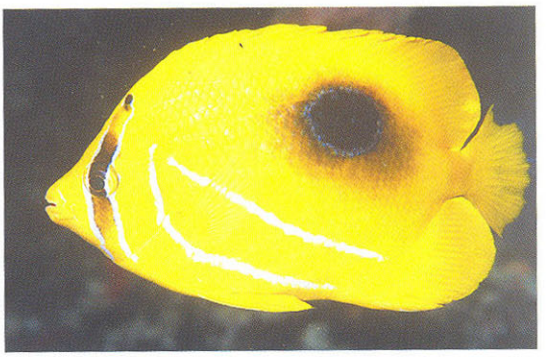
Spotted Butterflyfish *Chaetodon guttatissimus* (Lahjehi bibee) 11cm
This individual was feeding on the spawn of the Thick-armed Starfish

BUTTERFLYFISHES

CHAETODONTIDAE

If any fish family is symbolic of the coral reef, it is the Butterflyfishes. They are everywhere on the reef and readily recognized with their standard livery of yellow, black and white. Many also have a black stripe through the eye and a black 'false-eye' spot near the tail. Many species feed on corals or associated animals, so are found most commonly in shallower waters, within easy snorkelling depths. The Indian Butterflyfish (overleaf) is an exception, being commonest below about 25m on steep outer reefs. Another species with a slightly atypical lifestyle is the Collared Butterflyfish (below) which is nocturnal, in contrast to nearly all other Butterflyfishes which are day-active. A few species, notably the Black Pyramid Butterflyfish and the Schooling Bannerfish are plankton eaters and form great schools up above the reef. Perhaps most distinctive of all are the Long-nosed Butterflyfishes (*Forcipiger*), which use their enormous snouts to pick tiny prey out of crevices among the coral. The two species can be separated by the lengths of their snouts relative to the yellow part of their bodies.

Threadfin Butterflyfish
Chaetodon auriga (Naruvaa bibee) 18cm



Bennett's Butterflyfish
Chaetodon bennetti (Faiymini bibee) 18cm

Citron Butterflyfish
Chaetodon citrinellus (Rulhigadha bibee) 10cm

Collared Butterflyfish
Chaetodon collare (Kalaru bibee) 16cm

Indian Vagabond Butterflyfish
Chaetodon decussatus (Hindhu bibee) 18cm

Double-saddled Butterflyfish
Chaetodon falcula (Asdhaanu bibee) 20cm

Klein's Butterflyfish
Chaetodon kleinii (Alanaasi bibee) 11cm

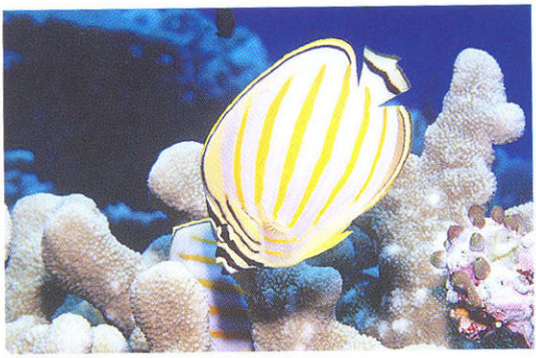
Racoon Butterflyfish
Chaetodon lunula (Handhufalhi bibee) 18cm

Madagascar Butterflyfish
Chaetodon madagaskariensis (Madagaskara bibee) 12cm

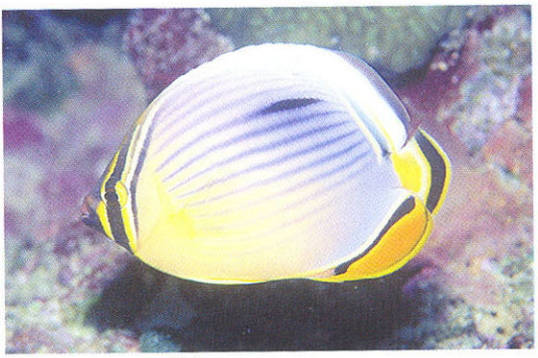
Indian Butterflyfish
Chaetodon mitratus (Kirulhiya bibee) 14cm

Blackback Butterflyfish *Chaetodon melannotus* (Kalhali bibee) 13cm
This species feeds heavily on Leather Corals

Meyer's Butterflyfish *Chaetodon meyeri* (Oirongu bibee) 16cm
A coral feeder found in areas with rich coral growth



Ornate Butterflyfish
Chaetodon ornatissimus (Nala bibee) 17cm

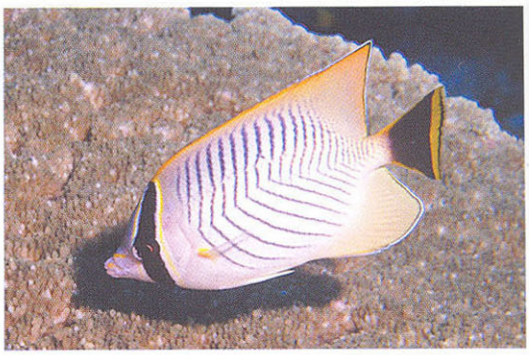


Oval Butterflyfish
Chaetodon trifasciatus (Bisburu bibee) 14cm

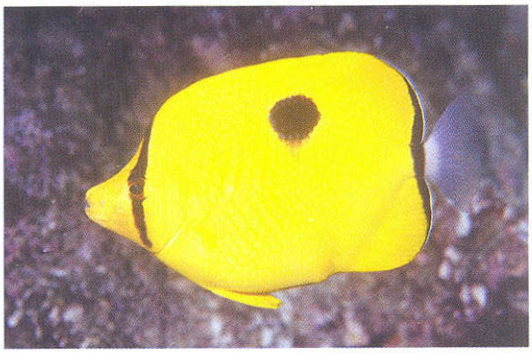
Brokenbar Butterflyfish
Chaetodon oxycephalus (Thalakalhu bibee) 22cm

Lined Butterflyfish
Chaetodon lineolatus (Theyri bibee) 25cm

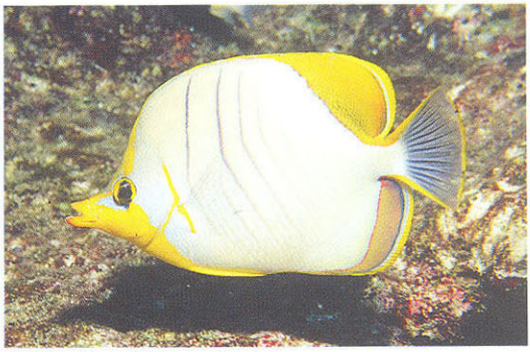
Triangular Butterflyfish
Chaetodon triangulum (Thinedkan bibee) 15cm



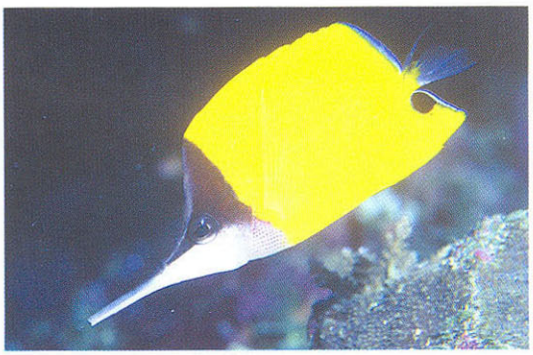
Chevron Butterflyfish
Chaetodon trifascialis Haluvi bibee 15cm



Teardrop Butterflyfish
Chaetodon unimaculatus Dhon bibee 18cm



Yellowhead Butterflyfish
Chaetodon xanthocephalus (Boareendhoo bibee) 18cm



Longnose Butterflyfish *Forcipiger longirostris* (Thundhigu bibee) 18cm
This species has a black phase (right) which is rare in Maldives

Forcepsfish
Forcipiger flavissimus Thun bibee 15cm

Black Pyramid Butterflyfish
Hemitaurichthys zoster (Oimathi bibee) 15cm

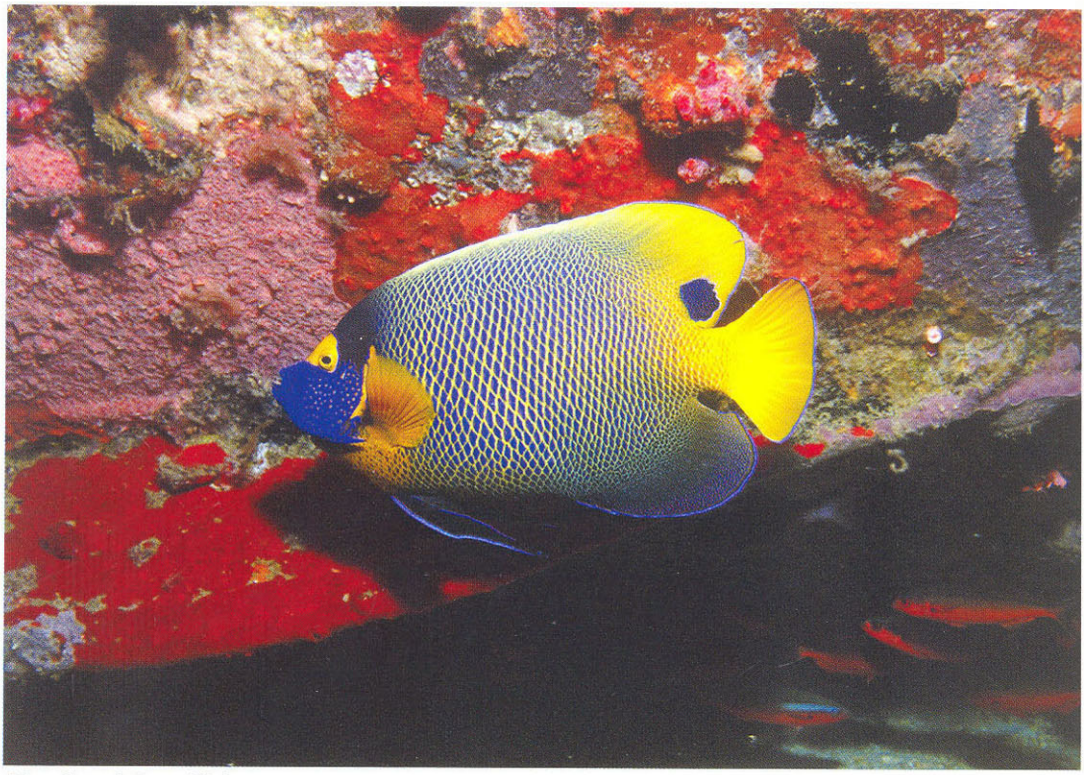
Reef Bannerfish *Heniochus acuminatus* Dhidhamas bibee 22cm
Very similar to the Schooling Bannerfish (below) but normally seen in pairs

Schooling Bannerfish
Heniochus diphreutes Dhidhamas bibee 18cm

Masked Bannerfish
Heniochus monoceros (Masku dhidhamas bibee) 20cm

Indian Bannerfish
Heniochus pleurotaenia (Hindu dhidhamas bibee) 18cm

Singular Bannerfish
Heniochus singularis (Kalhu dhidhamas bibee) 25cm



Blue-faced Angelfish *Pomacanthus xanthometopon* (Boa reendhoo kokaamas) 40cm
The largest Maldivian Angelfish, this species can make a distinct drumming sound when disturbed

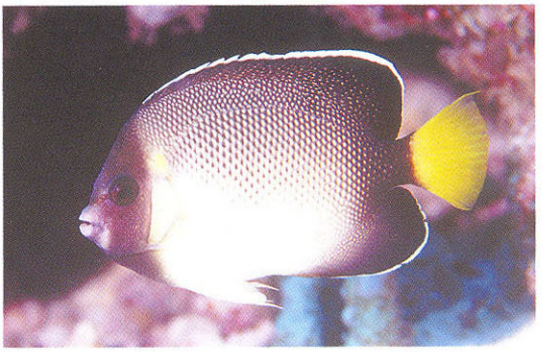
Regal Angelfish *Pygoplites diacanthus* (Kula kokaamas) 20cm
Juveniles (see page 130) tend to live in caves

ANGELFISHES

POMACANTHIDAE

Angelfishes are very closely related to Butterflyfishes (previous pages). They differ in a number of characteristics, but the one most obvious to divers and snorkellers is that Angelfishes have a stout cheek spine that is lacking in Butterflyfishes. Small *Centropyge* Angelfishes are for the most part algal grazers, and they tend to be rather shy and retiring. This presumably makes them unattractive to most larger predators, and as a result they are mimicked by some species of juvenile Surgeonfishes (see page 113). In contrast to the smaller Angelfishes, the large *Pomacanthus* Angelfishes are difficult to overlook. They are territorial, and use their gaudy colours to proclaim their presence to others of the same species, if necessary fighting to defend their patch of reef. Perhaps for this reason the young are very different in colour from the adults, a strategy that presumably allows the juveniles to feed in peace. They feed mainly on sponges, which is rather unusual since sponges are very difficult for most animals to digest.

Threespot Angelfish
Apolemichthys trimaculatus Dhon kokaamas 18cm



Yellowtail Angelfish
Apolemichthys xanthurus (Dhun kokaamas) 15cm

African Pygmy Angelfish
Centropyge acanthops (Dhon noo kokaamas) 8cm

Multispine Angelfish
Centropyge multispinis (Kashi kokaamas) 10cm

Imperial Angelfish *Pomacanthus imperator* (Ras kokaamas) 30cm
Adults (left) and juveniles (right) have very different colour patterns

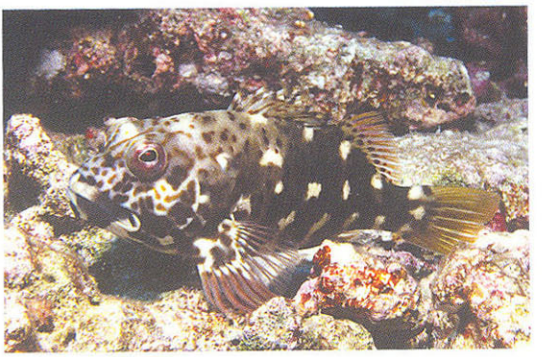
Pixy Hawkfish *Cirrhitichthys oxycephalus* Gaaboa 7cm
A very common species in the Maldives

Arc-eye Hawkfish *Paracirrhites arcatus* Gaaboa 10cm
A favourite with underwater photographers as it usually stays still long enough for a photo

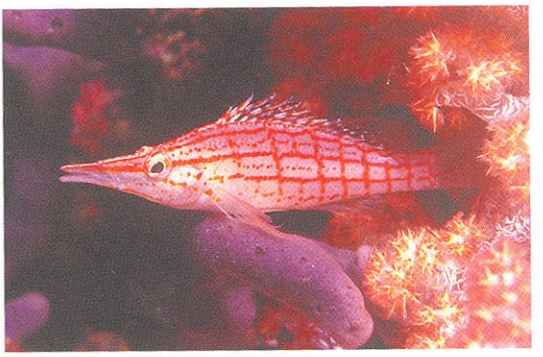
HAWKFISHES

CIRRHITIDAE

Sitting up on a prominent look-out, waiting for a tasty small animal to happen past, these fishes may behave a bit like a Hawk, although they look nothing like one. The scientific name for the family is even more obscure: these fishes are characterized by having tassels (or cirri) on their dorsal fins (see photo left). Some species can be found in a wide range of reef habitats, while others are quite particular in their domestic requirements. The Longnose Hawkfish (right) for example is only found on moderately deep reefs, most frequently on black corals. In contrast, the Surge Hawkfish (above right) is found only in the exposed shallow spur-and-groove zone of outer reefs. Such reefs are pounded by ferocious ocean swell for months at a time. When the surf is up there is no real chance of seeing Surge Hawkfish. But in the Maldives, with its monsoon winds blowing one season from one side and the next season from the other, there is always one side where these delightful fishes can be safely watched.



Surge Hawkfish
Cirrhitus pinnulatus Fala gaaboa 20cm



Longnose Hawkfish
Oxycirrhites typus Endheri gaaboa 10cm

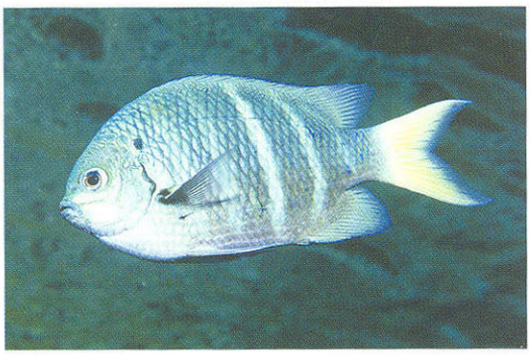
Blackside Hawkfish *Paracirrhites forsteri* (Thijjehi gaaboa) 15cm
Very variable in colour, but the left picture shows the typical adult colouration

Blackside Hawkfish *Paracirrhites forsteri* (Thijjehi gaaboa) 15cm
Further colour variations; juveniles (right) often show a lot of red

Sergeant Major *Abudefduf vaigiensis* Burandha 14cm
This individual was guarding its eggs, laid on the flat deck plating of a shipwreck

Sergeant Major
Abudefduf vaigiensis Burandha 14cm

Black-spot Sergeant
Abudefduf sordidus Burandha 15cm



Yellow-tail Sergeant
Abudefduf notatus Burandha 15cm

Clark's Anemonefish (Juvenile)
Amphiprion clarkii Maagandumas 10cm

DAMSELFISHES

POMACENTRIDAE

There are several contestants for the title of most important reef fish family, but the Damselfishes are certainly one of the front-runners. Not only are there numerous species, but also many of these species are present on Maldivian reefs in prodigious numbers. Two species (the Blue-green Chromis, page 71, and the Fusilier Damselfish, page 73) occur in such abundance that they are sometimes caught in bulk and used as livebait in the tuna fishery. Despite their abundance, many of the Damselfishes are rather difficult to identify to species, since so many look alike. Two of the most easily identified species are the Anemonefishes (below, and also page 2). Both the Maldives Anemonefish and Clark's Anemonefish are only ever found in close association with giant sea anemones. These sea anemones have stinging tentacles, among which the Anemonefishes are able to hide when threatened by would-be predators. The Anemonefishes themselves are immune from the stings, having a special thick coating of protective mucus.

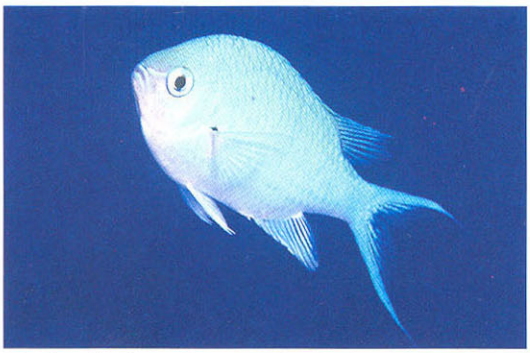
Green Damselfish
Amblyglyphidodon batunai Dhon burandha 14cm

White-belly Damselfish
Amblyglyphidodon leucogaster Dhon burandha 12cm

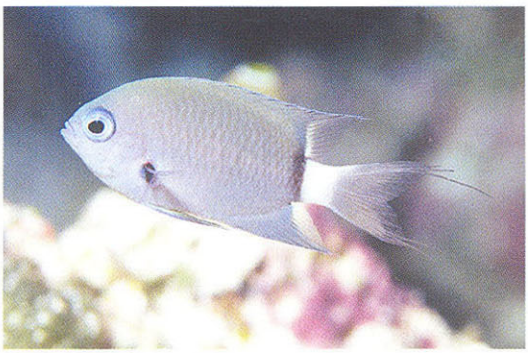
Maldive Anemonefish *Amphiprion nigripes* Dhivehi maagandumas 9cm
Some individuals in the southern atolls have an orange not black anal fin (right photo from Addu Atoll)

Clark's Anemonefish *Amphiprion clarkii* Maagandumas 10cm
The amount of black varies considerably, tending to increase with age

Twinspot Chromis *Chromis elerae* (Hudhu thiki nilamehi) 6cm
A common inhabitant of deep reefs, usually associated with large overhangs



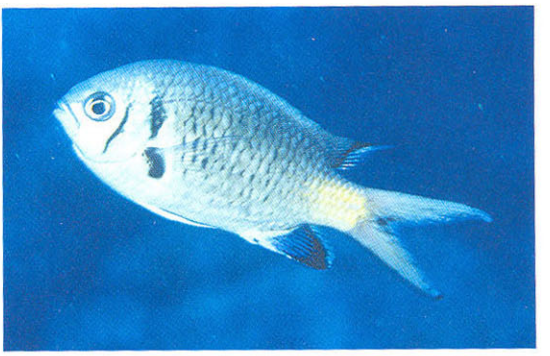
Blackaxil Chromis
Chromis atripectoralis (Kalhu thiki nilamehi) 8cm



Deep-reef Chromis
Chromis delta (Fun nilamehi) 6cm

Chocolate-dip Chromis
Chromis dimidiata Dheburi dhekula nilamehi 6cm

Yellow-axil Chromis
Chromis flavipectoralis Dhon thiki nilamehi 7cm



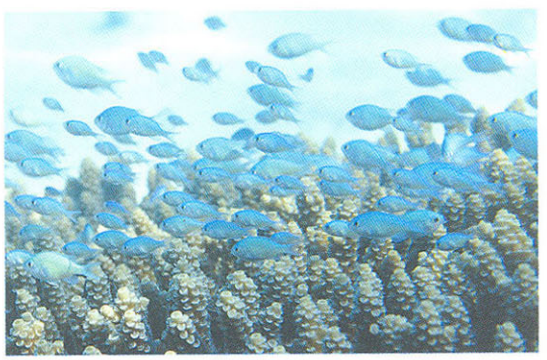
Cheek-bar Chromis *Chromis opercularis* Kalhu kolaru nilamehi 10cm
Frequently swims up off the bottom; colouration sometimes appears two-tone (dark above, pale below)

Cheek-bar Chromis (Juvenile)
Chromis opercularis Kalhu kolaru nilamehi 10cm

Blackfin Chromis
Chromis nigroanalis (Kalhu kotari nilamehi) 9cm

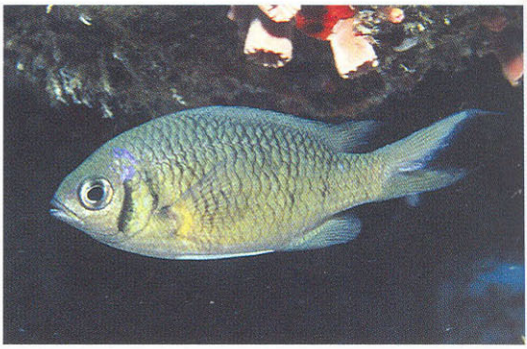
Golden Chromis
Chromis ternatensis Lonu lunboa 8cm

Blue-green Chromis
Chromis viridis Nilamehi 7cm



Blue-green Chromis *Chromis viridis* Nilamehi 7cm
Very common, usually in coral-associated schools (left). Nuptial male right

Pemba Chromis
Chromis pembae Dhon nilamehi 10cm



Weber's Chromis
Chromis weberi (Alhi nilamehi) 9cm

Buff Chromis
Chromis xutha Dhon nilamehi 7cm

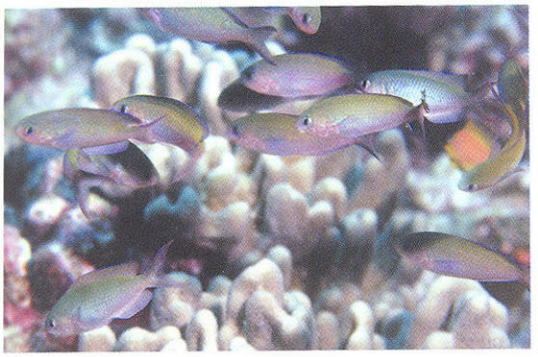
Twospot Damselfish
Chrysiptera biocellata Koshaa dhanbaa 9cm

Surge Damselfish
Chrysiptera brownriggii (Ran dhanbaa) 7cm

Humbug Dascyllus
Dascyllus aruanus Murakamas 6cm

Indian Dascyllus
Dascyllus carneus (Dhegalhi murakamas) 7cm

Threespot Dascyllus
Dascyllus trimaculatus Kalhu murakamas 8cm



Fusilier Damselfish
Lepidozygus tapeinosoma Bureki 8cm

Dick's Damselfish
Plectroglyphidodon dickii (Eggalhi dhanbaa) 9cm

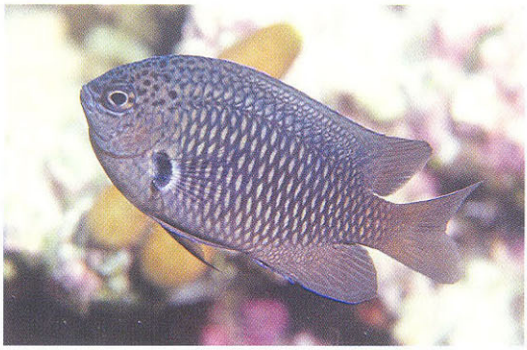
Johnston Damselfish
Plectroglyphidodon johnstonianus (Lahjehi dhanbaa) 9cm

Jewel Damselfish
Plectroglyphidodon lacrymatus (Thijjehi dhanbaa) 9cm

Neon Damselfish *Pomacentrus caeruleus* Dhon noo dhanbaa 6cm
One of the most beautiful and easily recognized of the Damselfishes

White-tail Damselfish
Pomacentrus chrysurus Hudhu nigoo dhanbaa 7cm

Scribbled Damselfish
Pomacentrus nagasakiensis Kalhu dhanbaa 9cm



Indian Damselfish *Pomacentrus indicus* (Kula dhanbaa) 9cm
Juveniles (right) have an orange bonnet, which disappears with age

Peacock Damselfish
Pomacentrus pavo Hunike 8cm

Philippine Damselfish
Pomacentrus philippinus (Nigoo reendhoo dhanbaa) 8cm

Bluntnose Gregory
Stegastes punctatus Dhanbaa 12cm

Black Gregory
Stegastes nigricans Dhanbaa 11cm

WRASSES

LABRIDAE

The Wrasses are a large and diverse family. They range in size from the giant Napoleon Wrasse (page 77) to the diminutive Cave Wrasses (page 85). The family includes some of the most colourful of all reef fishes, and some of the most active, with many of the smaller species constantly bustling around the reef. Wrasses change sex as they grow, the largest individuals being males. Colour pattern often changes with sex, and juveniles sometimes have distinct colouration too, so there is plenty of room for confusion when trying to make an identification. One way to see which male belongs to which female is simply to follow them. Males, particularly among the smaller reef wrasses, often maintain a harem of several females. Some males swim more-or-less continuously with the females, others regularly patrol their patch, checking on each female in turn. In either case a few minutes observation of an individual of one sex should allow one to identify the other sex as well.

Lined Wrasse (Juvenile)
Anampses lineatus (Rongu kendi hikaa) 12cm

Lined Wrasse
Anampses lineatus (Rongu kendi hikaa) 12cm

Redbreasted Maori Wrasse *Cheilinus fasciatus* (Fulhah hikka) 30cm
Feeds on hard-shelled bottom-dwelling animals, including sea urchins

Yellowtail Wrasse *Anampses meleagrides* (Koveli hikaa) 15cm
Only females (left) have yellow tails, while males (right) look very different

Yellowbreasted Wrasse
Anampses twistii Hikaa 15cm

Knife Wrasse
Cymolutes praetextatus Hikaa 9cm

Axilspot Hogfish *Bodianus axillaris* (Lah kotari hikaa) 18cm
Adult left, juvenile right. Juveniles clean other fish in the same way as Cleaner Wrasses

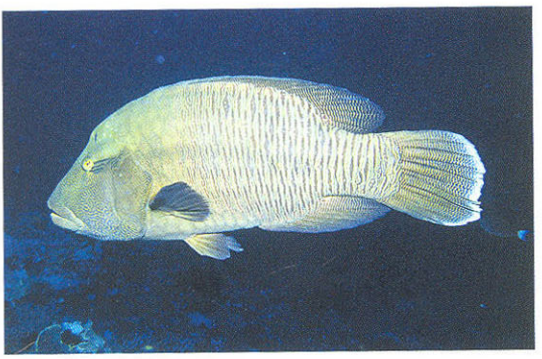
Diana's Hogfish *Bodianus diana* (Thinthiki hikaa) 20cm
Adult left, juvenile right. Feeds on bottom-dwelling animals, but juveniles also clean other fish

Whitespot Maori Wrasse
Cheilinus chlorourus Hikaa 25cm

Cheeklined Maori Wrasse
Oxycheilinus digrammus Hikaa 25cm

Snooty Maori Wrasse
Cheilinus oxycephalus (Filaa hikaa) 15cm

Tripletail Wrasse
Cheilinus trilobatus Hikaa 35cm



Napoleon Wrasse
Cheilinus undulatus Maa hulhunbu landaa 2m

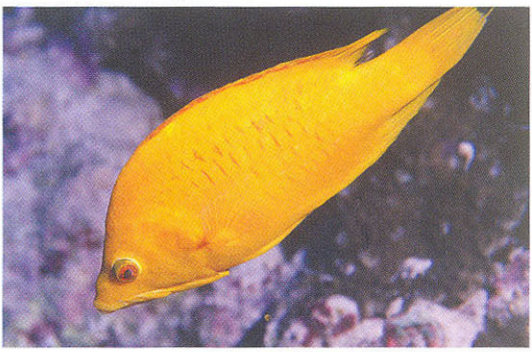
Rose-scale Wrasse
Cirrilabrus rubrisquamis (Raiy hulhunbu hikaa) 8cm

Exquisite Wrasse *Cirrilabrus exquisitus* (Fari hikaa) 10cm
Male left, female right. Beautiful and very common but easily overlooked because of their small size

Cigar Wrasse *Cheilio inermis* (Ilolhi hikaa) 40cm
Usually green and associated with seagrass; yellow phase more likely to be seen on the reef

Batu Wrasse *Coris batuensis* (Galhi kendi hikaa) 15cm
Adult left, juvenile right. A common species particularly in shallower water

Queen Coris *Coris formosa* Hikaa 50cm
Male left, juvenile right. Formerly known as *Coris frerei*



Slingjaw Wrasse *Epibulus insidiator* (Thun dhanaa hikaa) 25cm
Feeds with highly protrusible jaws. Yellow colour phase right

Bird Wrasse *Gomphosus caeruleus* Theyofulhi hikaa 22cm
Males (left) are green-blue, while the smaller females (right) are brown

Adorned Wrasse *Halichoeres cosmetus* (Nala hikaa) 12cm
In this species the differences between males (left), females (right) and juveniles (below) are subtle

Adorned Wrasse (Juvenile)
Halichoeres cosmetus (Nala hikaa) 12cm

Checkerboard Wrasse (Male)
Halichoeres hortulanus Gulsanpaa hikaa 24cm

Checkerboard Wrasse *Halichoeres hortulanus* Gulsanpaa hikaa 24cm
Female left, juvenile right. One of the commonest Wrasses on Maldivian reefs

Lemon Meringue Wrasse
Halichoeres leucoxanthus (Dhon lunboa hikaa) 11cm

Threespot Wrasse
Halichoeres trispilus Hikaa 12cm (In caves below 20m)

Dusky Wrasse *Halichoeres marginatus* (Mushi hikaa) 15cm
Male left, female right. Not uncommon but easily overlooked

Vrolik's Wrasse *Halichoeres vrolikii* Hikaa 12cm
Male left, female right. Also known as the Indian Ocean Pinstriped Wrasse

Zigzag Wrasse
Halichoeres scapularis (Dhon hikaa) 18cm

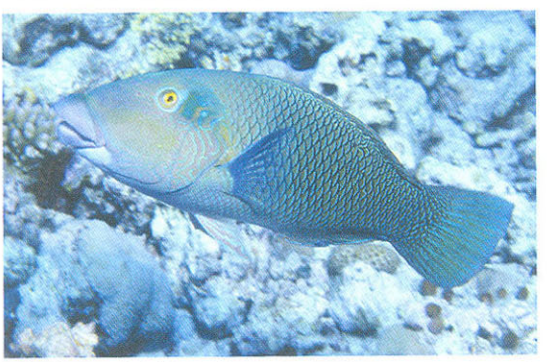
Cleaner Wrasse
Labroides dimidiatus Theyofulhi mas 10cm

Bicolour Cleaner Wrasse *Labroides bicolor* Dhon theyofulhi mas 14cm
Adult left, juvenile right. Regularly cleans other fish. See also page 32, bottom left

Tubelip Wrasse
Labrichthys unilineatus (Eh rongu hikaa) 15cm

Yellowback Wrasse
Labropsis xanthonota (Dhon kotari hikaa) 12cm

Barred Thicklip Wrasse *Hemigymnus fasciatus* (Galhi kendi thunbodu hikaa) 40cm
Adult left, subadult right. Like many large Wrasses feeds mainly on Crustaceans and Molluscs



Blackeye Thicklip Wrasse *Hemigymnus melapterus* (Kalhali thunbodu hikaa) 50cm
Adult left, subadult right. Adults eat hard-shelled animals, but juveniles apparently take some plankton

Divided Wrasse *Macropharyngodon bipartitus* (Kurehi hikaa) 12cm
Male left, females right. Also called Leopard Wrasse and Vermiculate Wrasse

Rockmover Wrasse
Novaculichthys taeniourus (Gaa furolhaa hikaa) 25cm

McCosker's Flasher Wrasse (Female)
Paracheilinus mccoskeri (Faiymini hikaa) 7cm

McCosker's Flasher Wrasse *Paracheilinus mccoskeri* (Faiymini hikaa) 7cm
Males flash their spectacular fins to seduce females and warn off other males

Twospot Maori Wrasse
Oxycheilinus bimaculatus Hikaa 10cm

Disappearing Wrasse
Pseudocheilinus evanidus (Miyakan hudhu hikaa) 8cm

Sixstripe Wrasse
Pseudocheilinus hexataenia (Harongu hikaa) 7cm

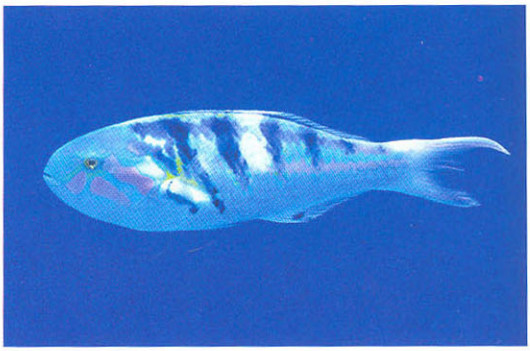
Eightstripe Wrasse
Pseudocheilinus octotaenia (Ah rongu hikaa) 10cm

Chiseltooth Wrasse *Pseudodax moluccanus* (Daiy thoonu hikaa) 22cm
Uses its sharp teeth to crop encrusting invertebrates on overhanging surfaces. Displaying males (right)

Bluelined Wrasse *Stethojulis albovittata* Hikaa 12cm
A single male (left) will usually maintain a harem of several females (right)

Blunthead Wrasse *Thalassoma amblycephalum* (Baiypen hikaa) 14cm
Mature male (left), female (right) and juvenile school (below left)

Blunthead Wrasse
Thalassoma amblycephalum (Baiypen hikaa) 14cm



Six-barred Wrasse
Thalassoma hardwicke Kaashi hikaa 18cm

Moon Wrasse *Thalassoma lunare* (Nigoo dhigu hikaa) 22cm
Male left, female right. Named for their crescent-shaped tail

Jansen's Wrasse
Thalassoma janseni Hikaa 20cm

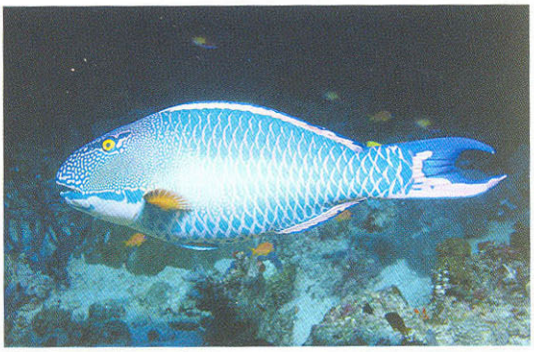
Fivestripe Wrasse
Thalassoma quinquevittatum Hikaa 15cm

Fivestripe Wrasse *Thalassoma quinquevittatum* Hikaa 15cm
Male, female on previous page. Found in the shallow surge zone of the outer reef

White-banded Cave Wrasse
Wetmorella albofasciata (Hoholha hikaa) 6cm

Yellow-banded Cave Wrasse
Wetmorella nigropinnata (Hoholha hikaa) 6cm

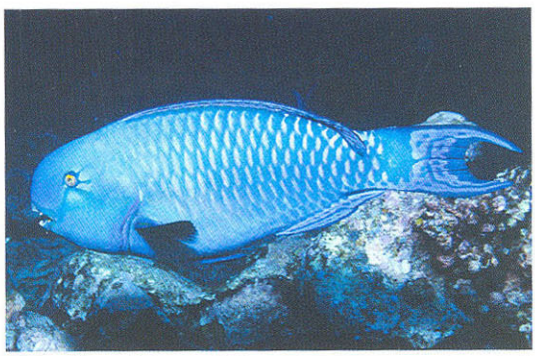
Razorfish *Iniistius pavo* (Samaraa hikaa) 30cm
A sand-dweller, normally found below about 15m. Formerly known as *Xyrichtys pavo*

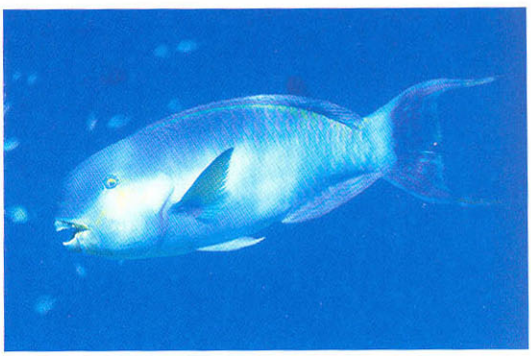


Bicolour Parrotfish *Cetoscarus bicolor* Landaa 80cm
Terminal phase left, initial phase right. The name refers to the two-tone cream and brown females

Bicolour Parrotfish (Juvenile)
Cetoscarus bicolor Landaa 80cm

Starry-eye Parrotfish
Calotomus carolinus Landaa 35cm





Roundhead Parrotfish *Chlorurus strongylocephalus* Landaa 70cm
Terminal phase left, nuptial male right. Single males often seen with four or five females (below)

Roundhead Parrotfish (Initial phase)
Chlorurus strongylocephalus Landaa 70cm

Captain Parrotfish
Chlorurus enneacanthus Landaa 45cm

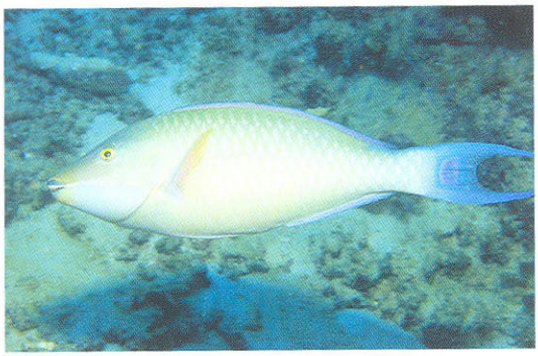
PARROTFISHES

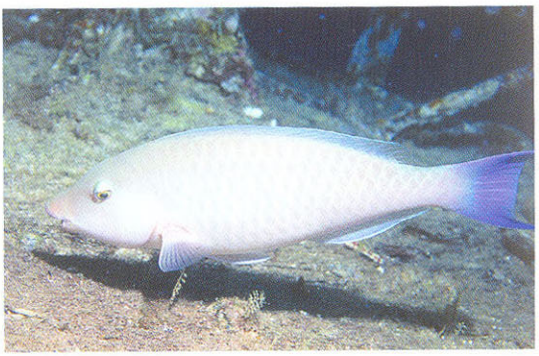
SCARIDAE

Twenty-three species of Parrotfish have been recorded from the Maldives so far, a small total that does not do justice to the ecological importance of these fishes on the coral reef. With their powerful fused teeth, Parrotfish feed by scraping algae from the reef. They take in quantities of the underlying limestone rock at the same time. Not only does this keep the growth of algae in check, but it also contributes enormously to the production of sand, the essential ingredient in the formation of Maldivian islands. A young adult Parrotfish (the so-called initial phase) may be either male or female. As initial phase fishes grow they change colours (and also sex in the case of the females) and all become terminal phase males. In most Parrotfish species, juveniles, initial phases and terminal phases all have different colour patterns. While there are exceptions, initial phase colouration tends to be dominated by reds and browns, while terminal phases go for greens and blues. The Maldivian term *noo landaa* (blue parrotfish) therefore refers to one sex, not one species.

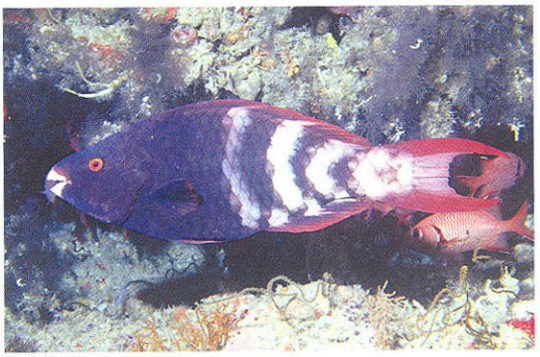
Bullethead Parrotfish (Terminal phase)
Chlorurus sordidus Landaa 40cm

Bullethead Parrotfish (Initial phase)
Chlorurus sordidus Landaa 40cm





Longnose Parrotfish *Hipposcarus harid* Landaa 50cm
Terminal phase left, initial phase right. In this species colour differences between sexes are subtle



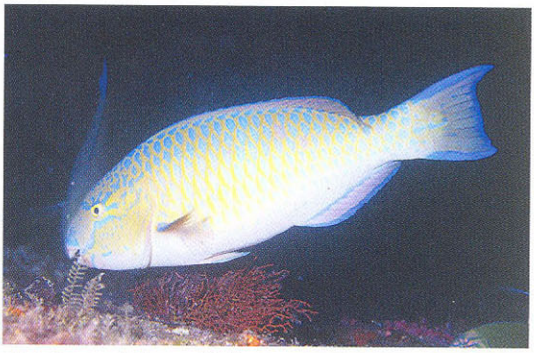
Bartail Parrotfish *Scarus caudofasciatus* Landaa 60cm
Terminal phase left, initial phase right. Confined to the western Indian Ocean

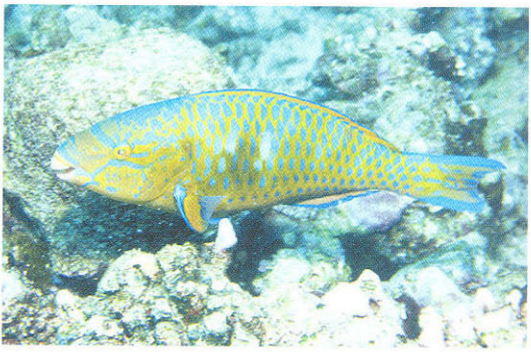
Bridled Parrotfish *Scarus frenatus* Landaa 45cm
Terminal phase left, initial phase right. Generally solitary but sometimes in mixed schools

Bridled Parrotfish (Juvenile)
Scarus frenatus Landaa 40cm

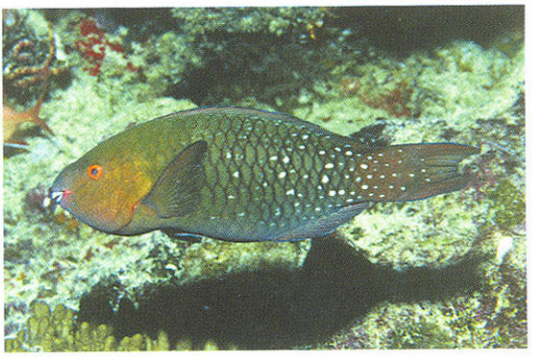
Dusky Parrotfish (Juvenile)
Scarus niger Landaa 40cm

Dusky Parrotfish *Scarus niger* Landaa 40cm
Terminal phase left, initial phase right. Terminal males usually solitary, this one photographed at night





Bluebarred Parrotfish *Scarus ghobban* Landaa 70cm
Terminal phase left, initial phase right. Usually seen singly



Greencheek Parrotfish *Scarus prasiognathus* Landaa 60cm
Terminal phase left, initial phase right. Often in large schools. Also known as the Singapore Parrotfish

Palenose Parrotfish *Scarus psittacus* Landaa 30cm
Terminal phase left, juvenile right. Yellow on the back of the adult male is a useful identification feature

Palenose Parrotfish *Scarus psittacus* Landaa 30cm
Nuptial male

Eclipse Parrotfish *Scarus russelii* Landaa 50cm
Terminal phase left, initial phase right. Rather shy and usually solitary

Yellowbar Parrotfish *Scarus scaber* Landaa 35cm
Terminal phase left, initial phase right. Females often in small schools

Tricolour Parrotfish *Scarus tricolor* Landaa 40cm
Terminal phase left, initial phase right. Widespread but not especially common in the Maldives

Ember Parrotfish (Initial phase)
Scarus rubroviolaceus Landaa 70cm

Green-nose Parrotfish (Terminal phase)
Scarus viridifucatus Landaa 25cm

SANDPERCHES

PINGUIPEDIDAE

The Sandperches (sometimes known as Grubfishes) can easily be confused with the Lizardfishes (page 13). However, these two types of fish are completely unrelated and any similarity of form is the result of similarity of lifestyle. Both are bottom-dwellers that ambush small fish and other animals. Among their differences, Sandperches have one long dorsal fin while Lizardfishes have one short one and often a second small fatty one. Both Sandperches and Lizardfishes sit up on their pelvic (bottom, paired) fins; in Sandperches these are slightly in front of the pectoral (side) fins, whereas in Lizardfishes they are just behind the pectoral fins. The Maldives Sandperch is one of the very few fish species found only in the Maldives. It is common on sand below about 10m, but was not discovered and named scientifically until 1984. The other two species shown here are both widely distributed in the tropical Indian and Pacific Oceans. They are best distinguished by their tail spots: one black, the other white.

Spot-tail Sandperch
Parapercis hexophthalma (Lah nigoo alathandu) 20cm

Brown-blotched Sandperch
Parapercis millepunctata (Mushi thiki alathandu) 18cm

Maldives Sandperch *Parapercis signata* (Kalhu kotari alathandu) 12cm
Also known as the Blackflag Sandperch on account of the characteristic black patch on its dorsal fin

Maldives Triplefin
Helcogramma maldivensis Dhivehi funna 4cm

TRIPLEFINS

TRIPTERYGIIDAE

The Triplefins are closely related to Blennies, but are unique in having three dorsal fins, instead of the usual one or two. Several species have been recorded from the Maldives. All are small and most stay very well hidden. The only species that is seen regularly is the Maldives Triplefin. This charming little fish is only known from the Maldives and the adjacent coast of Sri Lanka. A very similar species occurs from Sri Lanka to the Pacific; it is distinguished by having continuous rather than broken stripes on its sides. The Maldives Triplefin is widely distributed on reefs in diving depths, but one of its favourite haunts is the underside of table corals. Despite being very common in the Maldives, it was not discovered and named scientifically until 1992. This gives an indication of the relatively poor state of our knowledge of tropical marine life (not just of the Maldives but worldwide). We still know precious little about any of the smaller reef inhabitants.

Starry Dragonet
Synchiropus stellatus Funna 5cm

Starry Dragonet
Synchiropus stellatus Funna 5cm

DRAGONETS

CALLIONYMIDAE

The Dragonets are a group of small bottom-dwelling (benthic) fishes. They feed on small invertebrate animals on the sea floor. Several tiny species of Dragonet live on lagoon sand, on which they are extremely well camouflaged and very difficult to see. Only the Starry Dragonet is regularly seen on Maldivian reefs, normally on sand and rubble patches in moderate depths on the reef slope. It is a small species, so you have to be looking very closely to see it. If you do find one, there will usually be others nearby. Look for the male (bottom left) displaying to females using his brightly patterned dorsal fin. Females are usually smaller than the males, and have a black dorsal fin with a white margin. The Starry Dragonet is only found in the Indian Ocean, occurring from South and East Africa to Sumatra in Indonesia.

BLENNIES

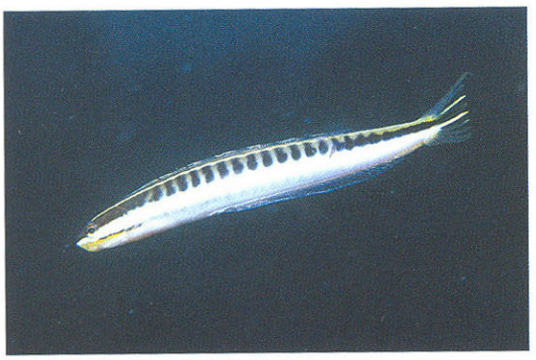
BLENNIIDAE

Blennies can easily be mistaken for Gobies (page 97). However, Blennies have one long dorsal fin (two in Gobies) and often show sensory tufts near their eyes (absent in Gobies). Most Blenny species are bottom-dwelling grazers. Exceptions include the plankton-eating Midas Blenny (overleaf) and the altogether more ferocious Sabretooth Blennies (this page). Like the extinct Sabretooth Tiger, they have one pair of enormous fangs, which in their case grows out of the lower jaw. I still have a scar (admittedly a very, very small scar) on one finger from the bite of a Bluestriped Sabretooth Blenny which I picked up from a fishermen's bait net nearly 20 years ago. Some species have potent venom associated with their fangs, so predators avoid them. An example is Smith's Sabretooth Blenny (upper right), which is mimicked by other non-venomous fishes including the Impostor Sabretooth Blenny (right) and juveniles of the Two-lined Monocle Bream (page 54). Several species of Sabretooth Blenny feed by ripping scales and chunks of fin from larger fish.

Smith's Sabretooth Blenny
Meiacanthus smithi (Daiythoonu venfunna) 7cm

Impostor Sabretooth Blenny
Plagiotremus phenax Venfunna 6cm

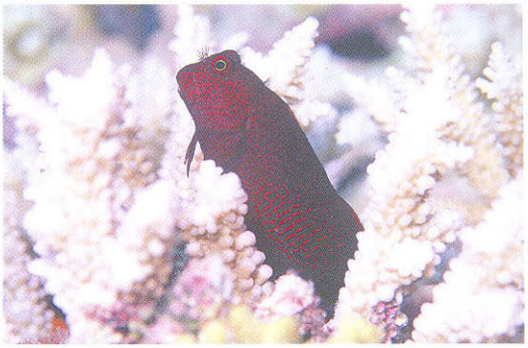
Bluestriped Sabretooth Blenny *Plagiotremus rhinorhynchos* Fansooru mas 11cm
If you see a larger reef fish 'jump' underwater this fin-biter is often the culprit



Piano Sabretooth Blenny
Plagiotremus tapeinosoma Fansooru mas 11cm

Bearded Sabretooth Blenny
Petroscirtes xestus Venfuuna 6cm

Earmuff Blenny
Cirripectes auritus Venfunna 8cm



Reticulated Blenny
Cirripectes stigmaticus Venfunna 10cm

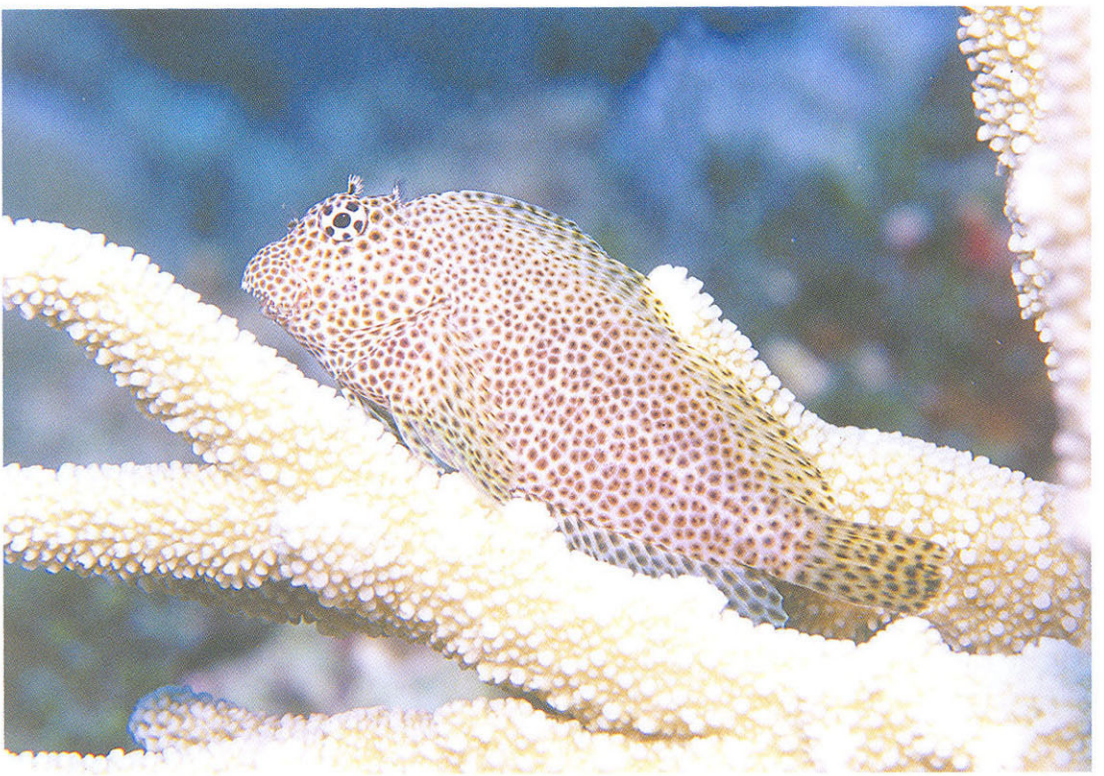
Maldives Blenny
Ecsenius minutus (Dhivehi venfunna) 9cm

Lined Blenny
Ecsenius lineatus (Rongudhemi venfunna) 10cm

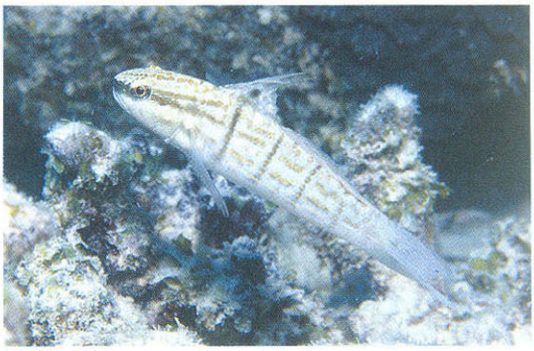
Lined Blenny *Ecsenius lineatus* (Rongudhemi venfunna) 10cm
This species has both a lined (above right) and a blotched colour form

Midas Blenny *Ecsenius midas* Ran venfunna 12cm
A plankton feeder, named for the gold-fingered king of Greek mythology

Bicolour Blenny *Ecsenius bicolor* (Dheburi dhekula venfunna) 9cm
In addition to the typical two-colour form (left), this species has a plain brown phase (right)



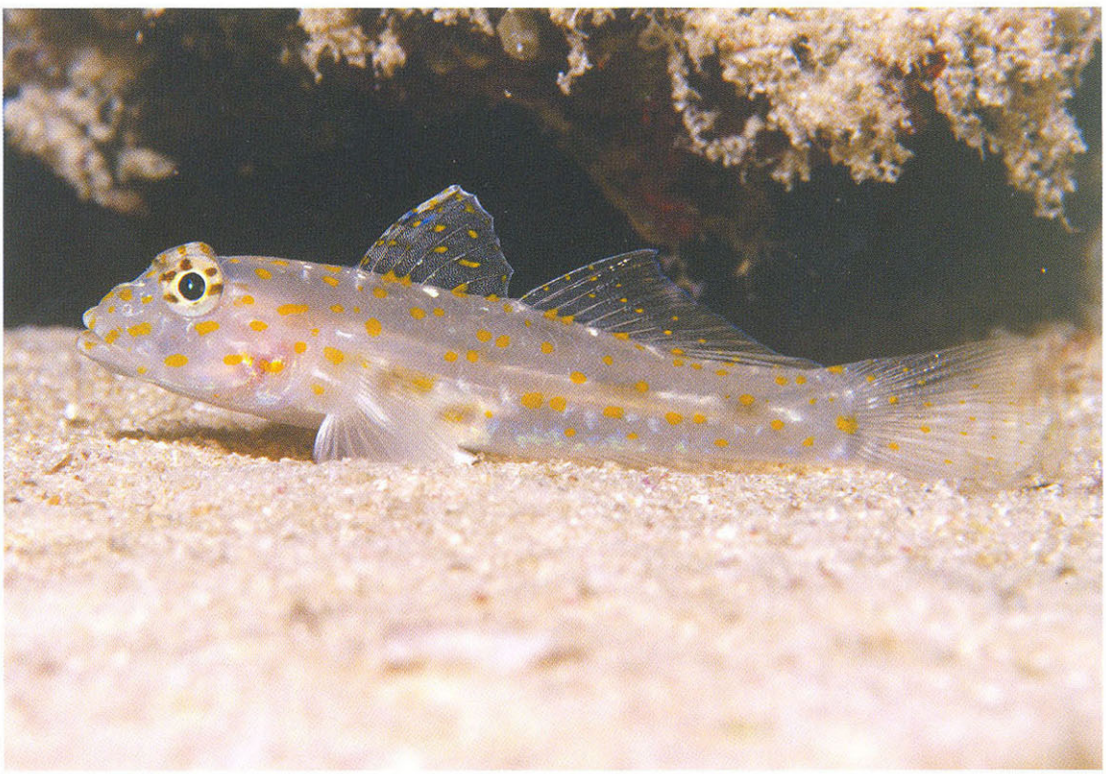
Leopard Blenny *Exallias brevis* Venfunna 12cm
Lives among branching corals, usually in relatively shallow water



Halfbarred Goby *Amblygobius semicinctus* (Baigalhi funna) 10cm
A distinctive species but can vary from very pale to very dark

Hector's Goby
Amblygobius hectori Funna 6cm

Two-spot Sand-goby
Fusigobius duospilos Funna 6cm



Orange-spotted Sand-goby *Fusigobius pallidus* Funna 6cm
These Sand-gobies have sometimes been known under the scientific name *Coryphopterus*

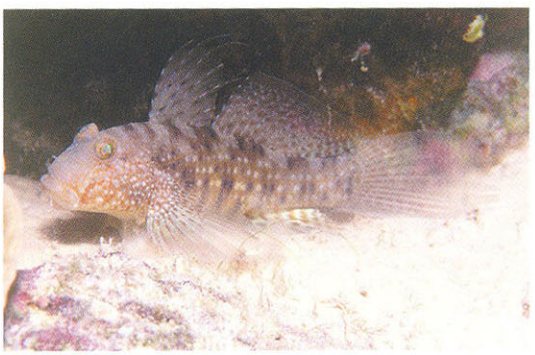
GOBIES

GOBIIDAE

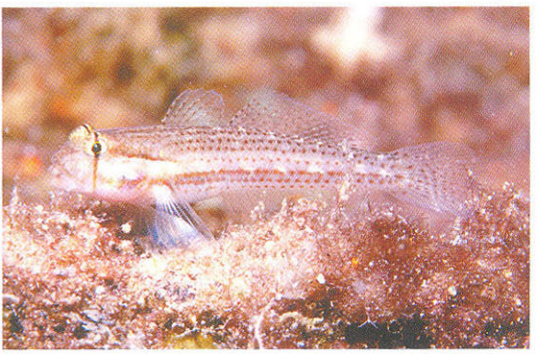
There are more species of Goby in the Maldives than of any other fish family. Over 100 species have been recorded so far, and many more are likely to occur here. All are small, and many appear to be rather dull-coloured, so they are often ignored. But look closely and you will see that most are in fact beautifully patterned and coloured. Be warned though that Goby-watching is addictive. As my wife (and diving buddy) never tires of reminding me, I once completely missed a Whale Shark as it swam right over my head because I was so engrossed in photographing a tiny Sand-goby. Indeed an underwater camera with a long focal length macro lens is a wonderful, near-indispensable aid to observing these fascinating animals. There are many species of Goby (probably hundreds worldwide and several from the Maldives) that have not yet been described by scientists. Even for the ones which we can put names to, we know next to nothing about their natural history.

Inner-spotted Sand-goby
Fusigobius inframaculatus Funna 6cm

Fine-spotted Sand-goby
Fusigobius neophytus Funna 6cm



Beautiful Goby
Exyrias belissimus Funna 12cm



Eye-bar Goby
Gnatholepis cauerensis Funna 6cm

Yellow Coral-goby
Gobiodon citrinus (Muraka funna) 6cm

Red Coral-goby
Gobiodon rivulatus (Muraka funna) 4cm

Halfbarred Goby *Amblygobius semicinctus* (Baigalhi funna) 10cm
A distinctive species but can vary from very pale to very dark

Hector's Goby
Amblygobius hectori Funna 6cm

Two-spot Sand-goby
Fusigobius duospilos Funna 6cm

Orange-spotted Sand-goby *Fusigobius pallidus* Funna 6cm
These Sand-gobies have sometimes been known under the scientific name *Coryphopterus*

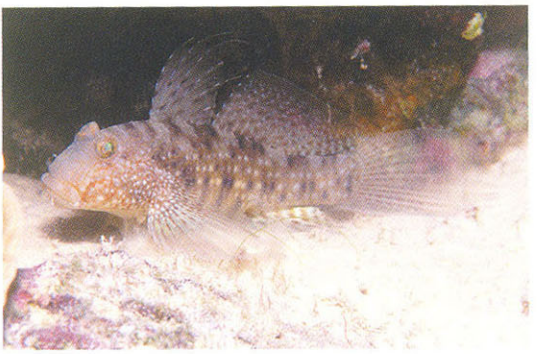
GOBIES

GOBIIDAE

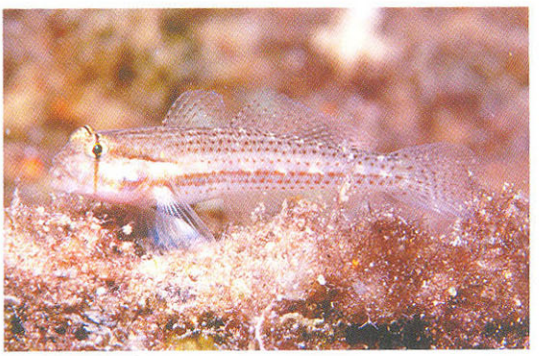
There are more species of Goby in the Maldives than of any other fish family. Over 100 species have been recorded so far, and many more are likely to occur here. All are small, and many appear to be rather dull-coloured, so they are often ignored. But look closely and you will see that most are in fact beautifully patterned and coloured. Be warned though that Goby-watching is addictive. As my wife (and diving buddy) never tires of reminding me, I once completely missed a Whale Shark as it swam right over my head because I was so engrossed in photographing a tiny Sand-goby. Indeed an underwater camera with a long focal length macro lens is a wonderful, near-indispensable aid to observing these fascinating animals. There are many species of Goby (probably hundreds worldwide and several from the Maldives) that have not yet been described by scientists. Even for the ones which we can put names to, we know next to nothing about their natural history.

Inner-spotted Sand-goby
Fusigobius inframaculatus Funna 6cm

Fine-spotted Sand-goby
Fusigobius neophytus Funna 6cm

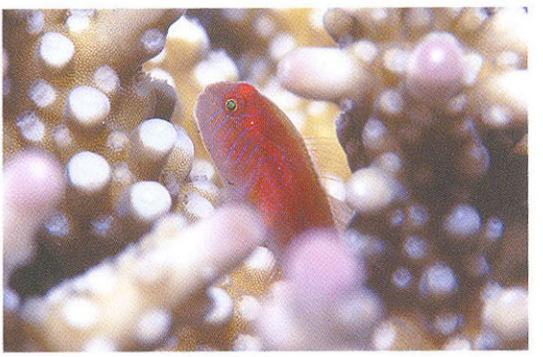


Beautiful Goby
Exyrias belissimus Funna 12cm

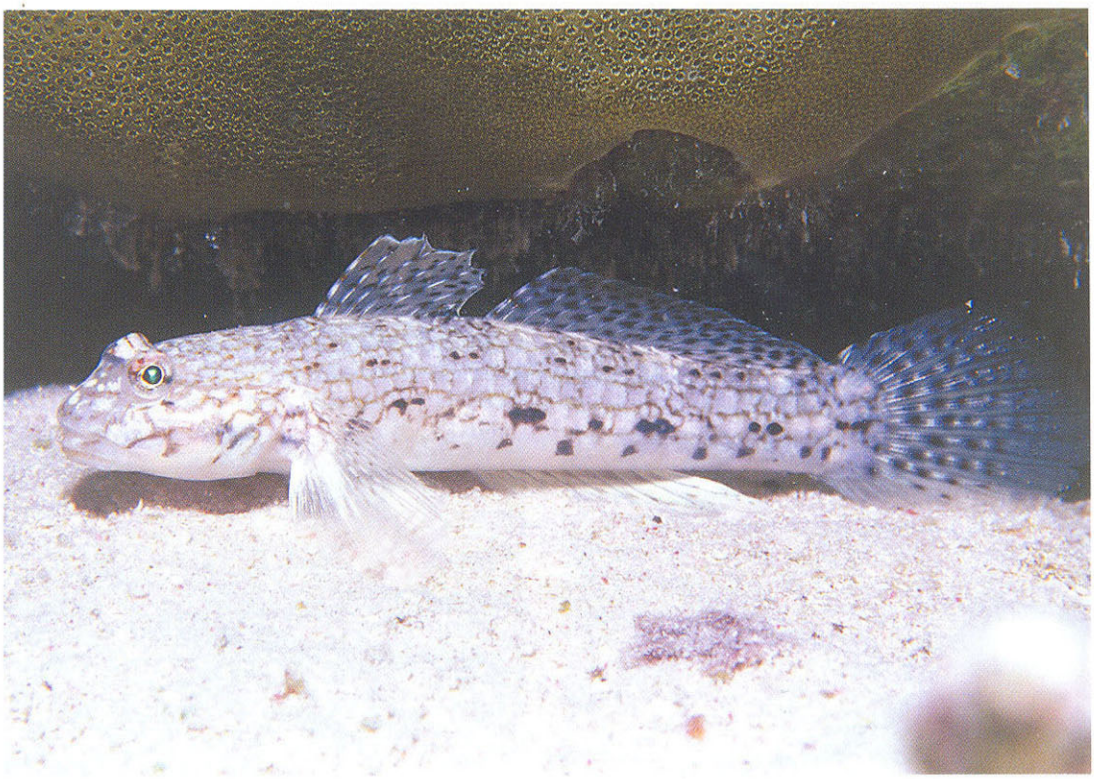


Eye-bar Goby
Gnatholepis cauerensis Funna 6cm

Yellow Coral-goby
Gobiodon citrinus (Muraka funna) 6cm



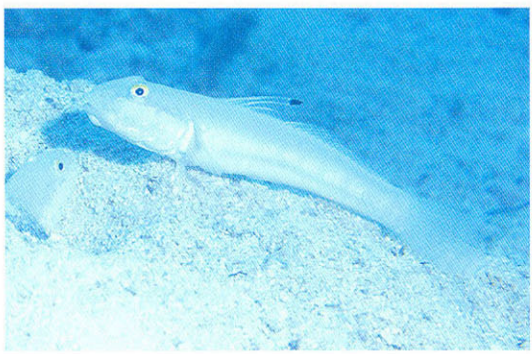
Red Coral-goby
Gobiodon rivulatus (Muraka funna) 4cm



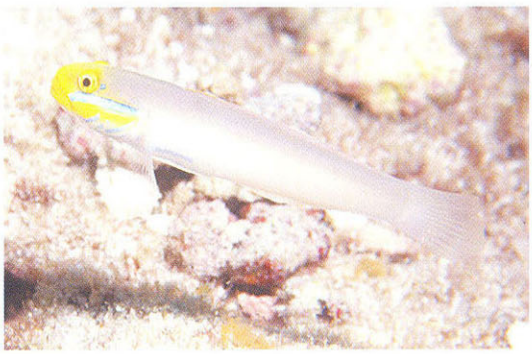
Decorated Sand-goby *Istigobius decoratus* (Nala funna) 12cm
An inverted U-shape at the end of the jaw (beneath the eye) aids identification

Striped Sleeper Goby
Valenciennea helsdingeni Funna 14cm

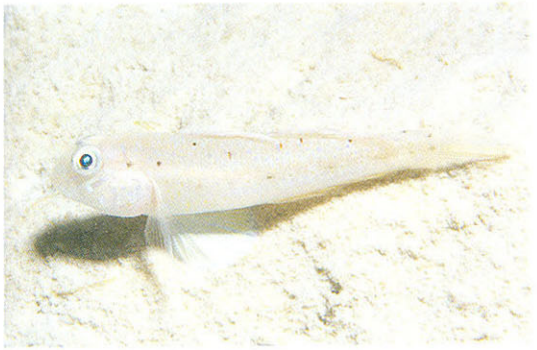
Maiden Sleeper Goby
Valenciennea puellaris Funna 14cm



Sixspot Sleeper Goby
Valenciennea sexguttata Kiru funna 16cm



Bluestreak Sleeper Goby
Valenciennea strigata Funna 16cm



White Sand-goby
Hazeus maculipinna Funna 6cm

Diagonal Shrimp Goby
Amblyeleotris diagonalis Dingaa funna 10cm

Shrimp Gobies

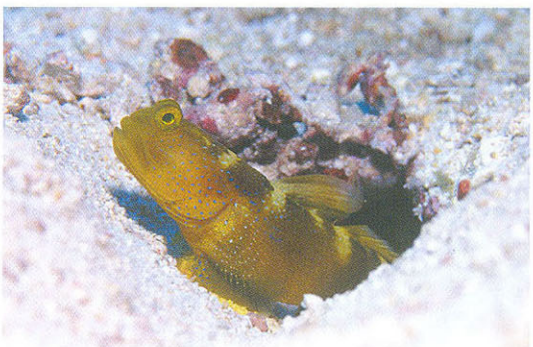
Many species of Goby live in sandy burrows, and some share their homes with one or two shrimps. The shrimps act like miniature bulldozers, constantly pushing sand out through the entrance. The shrimps are almost blind, and are not able to see an approaching predator. So they keep one antenna touching their partner Goby, which gives a warning shudder if danger threatens, allowing the shrimp to scuttle back into the safety of the burrow in good time. In return for its guarding duties, the Goby gets a well-maintained home.

Steinitz's Shrimp Goby
Amblyeleotris steinitzi Dingaa funna 9cm

Dawn Shrimp Goby *Amblyeleotris aurora* Dingaa funna 10cm
The shrimp most commonly associating with Gobies is *Alpheus randalli*

Gorgeous Shrimp Goby
Amblyeleotris fasciata Dingaa funna 10cm

Side-spot Shrimp Goby
Cryptocentrus strigilliceps Dingaa funna 10cm



Black-barred Shrimp Goby *Cryptocentrus fasciatus* Dingaa funna 7cm
This species has an uncommon yellow phase (right)

Fine-spotted Shrimp Goby *Ctenogobiops maculosus* Dingaa funna 6cm
Formerly known as *Ctenogobiops crocineus*

Pale Shrimp Goby
Ctenogobiops feroculus Dingaa funna 6cm

Pink-eyed Shrimp Goby
Flabelligobius latruncularius Dingaa funna 6cm

Dracula Shrimp Goby
Stonogobius dracula Dingaa funna 6cm

Ambanoro Shrimp Goby
Vanderhorstia ambanoro Dingaa funna 10cm

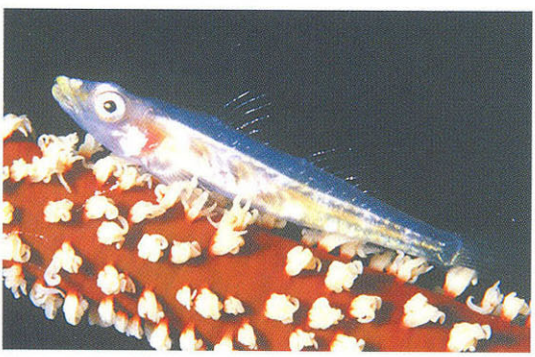
Dracula Shrimp Goby *Stonogobius dracula* Dingaa funna 6cm
This lagoon floor species is normally black-banded (above, left) but sometimes appears red-banded

Ornate Shrimp Goby *Vanderhorstia ornatissima* Dingaa funna 10cm
Individuals on open sand appear paler and show thin pale blue bars on their sides

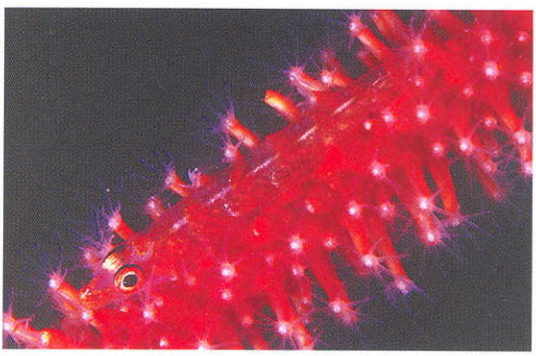
Starry Goby
Asterropteryx semipunctatus (Tari funna) 4cm

Micro-gobies

All Gobies are rather small, but some are especially tiny. Because of their particularly small size these species are easily overlooked even though some are extremely abundant. Indeed, some of these species are among the most abundant of all reef fishes, but most divers and snorkellers never even notice them. But look closely at almost any patch of reef and you will see some of these delightful little creatures. A few species are tied to very particular habitats, so inspect seawhips and black corals for these specialists.

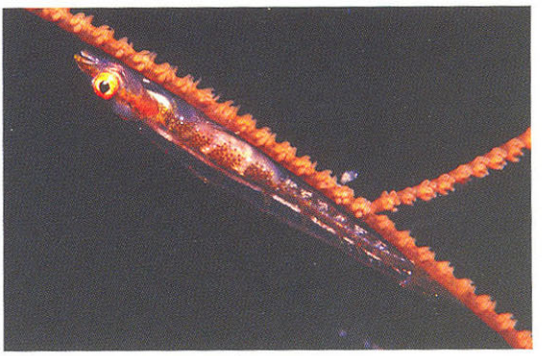


White-line Micro-goby
Bryaninops amplus Funna 4cm

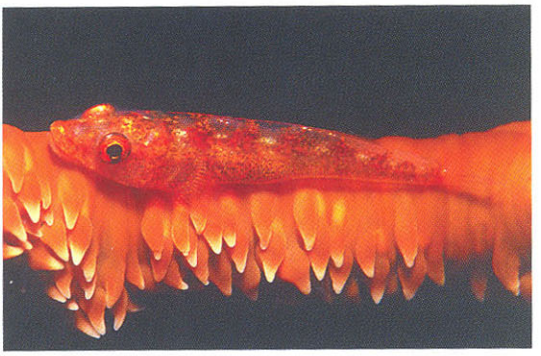


Loki Micro-goby
Bryaninops loki Funna 3cm

Purple-eyed Micro-goby
Bryaninops natans Funna 3cm



Black-coral Micro-goby
Bryaninops tigris Endheri funna 4cm



Seawhip Micro-goby
Bryaninops yongei Funna 4cm

Goldnose Micro-goby
Eviota mikiae Funna 3cm

Red-and-green Micro-goby *Eviota albolineata* Funna 3cm
The identity of this common species is uncertain; sometimes identified as *Eviota guttata*

Sebree's Micro-goby
Eviota sebreei Funna 3cm

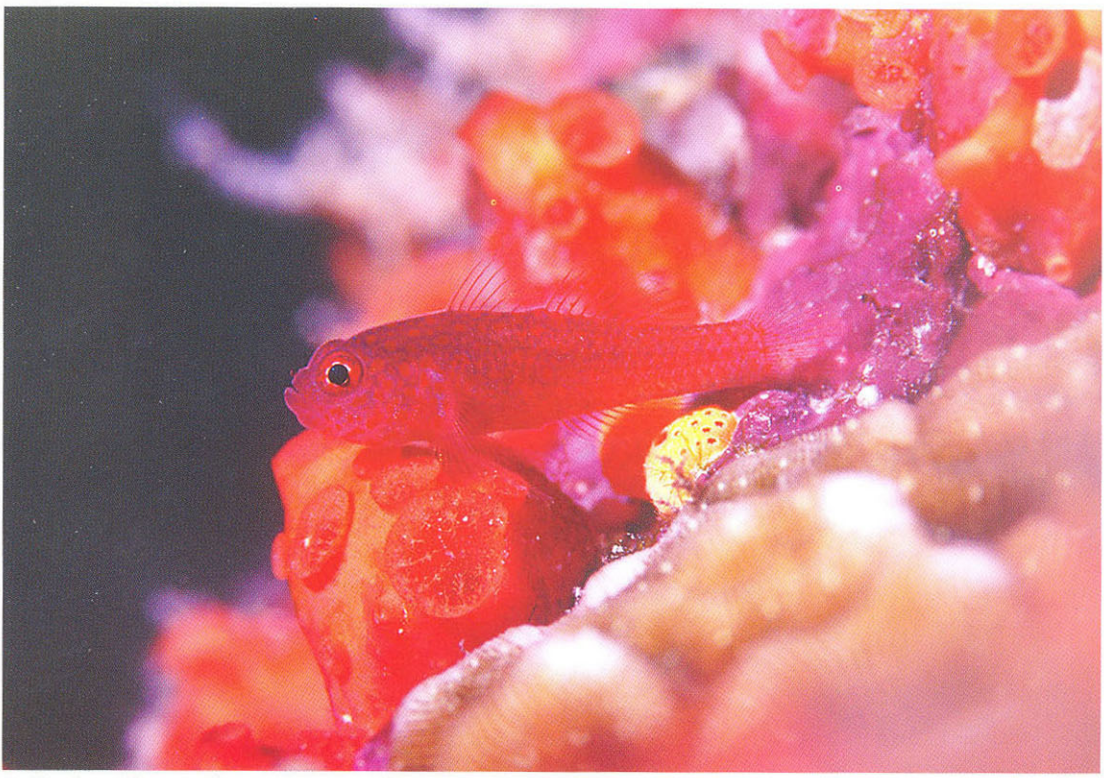
White-spotted Micro-goby
Eviota zebrina Funna 3cm

Banded Reef-goby
Priolepis cincta Funna 5cm

Ghost Reef-goby
Priolepis nocturna Funna 4cm

Coral Micro-goby
Pleurosicya micheli Funna 4cm

Bright-eyed Micro-goby
Trimma anaima Funna 3cm



Polkadot Micro-goby *Trimma corallina* Funna 3cm
The spots over the head and body of this species are red, rather than orange (next species)

Flame Micro-goby
Trimma flammeum Funna 3cm

Red-blotch Micro-goby
Trimma naudei Funna 3cm

Stobbs' Micro-goby
Trimma stobbsi Funna 3cm

Taylor's Micro-goby
Trimma taylori Funna 3cm

Cave Micro-goby *Trimma tevegae* Funna 3cm
A common species, often swimming upside-down beneath overhangs or cave roofs

DARTFISHES

MICRODESMIDAE

The Dartfishes or Dart Gobies are closely allied to the true Gobies. They are all rather elongated fishes, and all feed up off the bottom on plankton in the water column. Most hide in burrows when threatened or resting, but Worm Gobies can dive directly into the sand to hide. Worm Gobies are very common in some sand areas, but their colouration and delicate construction make them almost invisible. The Firegobies, surely two of the most beautiful of all reef fish species, are nearly always seen in pairs. The Magnificent Firegoby is common in depths down to about 20m, while the Elegant Firegoby is rarely seen above that depth. It is sometimes reported to live only below 30m, and most are indeed found on deeper reefs, but on one occasion I saw a pair living on a steep reef at 15m. Other Dartfishes occur in small groups, often sharing burrows. The Threadfin Dartfish is one of a series of very similar looking fishes and the scientific identity of the Maldivian species is still not settled.

Magnificent Firegoby
Nemateleotris magnifica Dhidha funna 8cm

Elegant Firegoby
Nemateleotris decora Dhidha funna 6cm

Two-tone Dartfish
Ptereleotris evides Funna 12cm

Threadfin Dartfish
Ptereleotris ?hanae Funna 10cm

Worm Goby
Gunnellichthys monostigma Funna 10cm

BATFISHES

EPHIPPIDAE

Two species of Batfish are known from the Maldives. Both are are omnivorous, consuming both algae and small invertebrates. They will also pick at jellyfish, and are very keen on handouts from divers. As a result some individuals have become very tame at certain popular dive sites. Batfishes are sometimes called Spadefishes, on account of their distinctive adult shape. This also gives them their Maldivian name, a *baiypolhi* being a traditional woven rice sifter, which is roughly square in shape. In contrast to the adults, juvenile Batfishes are much more elongated and tall-finned. Juvenile Circular Batfish are wonderful mimics, looking remarkably like dead leaves. Look for them in shallow lagoons and around jetties, where they sometimes lie at the surface alongside floating bits of rope. Adults are sometimes solitary, but are more often seen in small schools. These frequently loiter near prominent outcrops on the reef, or adjacent to shipwrecks.

Circular Batfish (Subadults)
Platax orbicularis Baiypolhi mas 30cm

Circular Batfish
Platax orbicularis Baiypolhi mas 30cm

Longfin Batfish *Platax teira* Baiypolhi mas 30cm
Best separated from the Circular Batfish by their yellow pelvic (lower) fins and black abdominal spot

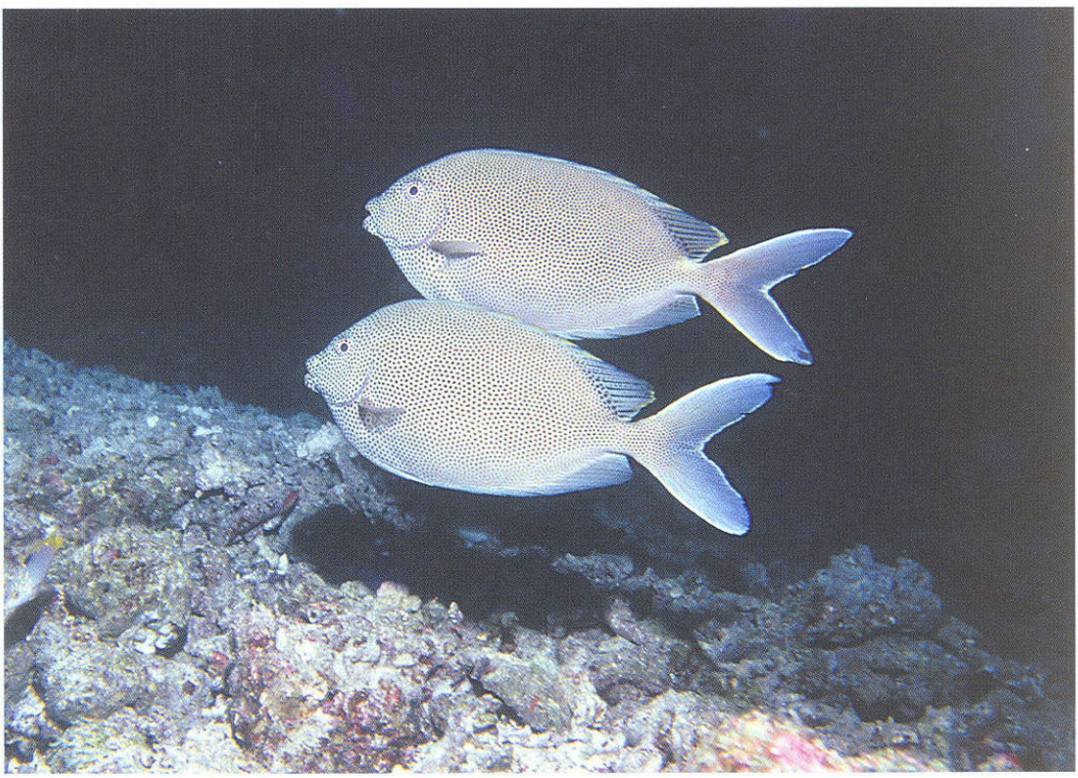
RABBITFISHES

SIGANIDAE

Like their terrestrial namesakes, Rabbitfishes are important grazers. They crop the thin growth of algae (seaweed) that covers most rock surfaces in shallow reef waters. They (together with Surgeonfishes and Parrotfishes) are so successful in this that the algae never gets a chance to grow up more than a millimetre or two, and is barely noticeable to the casual observer. Rabbitfishes have fin spines that are mildly venomous, so they should be treated carefully. These spines give Rabbitfishes their ironic Australian name, 'Happy Moments'. The Lined Rabbitfish is of special interest for several reasons. First, it is not uniformly distributed throughout the Maldives, like so many other reef fish species. Instead it is common in some atolls (e.g. Lhaviyani and Addu) but unknown in others. Secondly, it appears to be nocturnal, while most Rabbitfishes are day-active. Finally, Lined Rabbitfish in Maldives, Sri Lanka and India show subtle differences in colouration from Lined Rabbitfish in the western Pacific. The two populations may yet prove to be different species.

Forktail Rabbitfish
Siganus argenteus Ori 30cm

Lined Rabbitfish
Siganus ?lineatus Thammas 30cm



Starry Rabbitfish *Siganus stellatus* Galu ori 35cm
Invariably seen in pairs

Coral Rabbitfish *Siganus corallinus* Ori 30cm
Common on exposed reefs in moderate depths

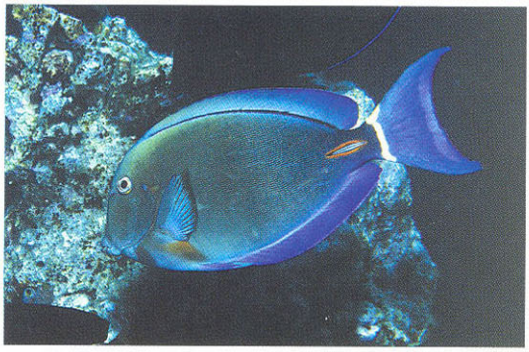
MOORISH IDOL

ZANCLIDAE

The Moorish Idol is related to the Surgeonfishes and Rabbitfishes, but is distinct enough to belong to a family of its own. Even though it is such a distinctive species, it is sometimes confused with the "Poor Man's Moorish Idols" or Bannerfishes, which are a type of Butterflyfish (see page 63). The Moorish Idol feeds mainly on bottom dwelling animals, including sponges, but also takes some algae and plankton. It is usually seen singly or in pairs, although it does occasionally form small schools. Juveniles (right) have a slightly different shape to adults, and for many years were thought to belong to a separate species (they were even given a separate scientific name, *Zanclus canescens*). The larvae of the Moorish Idol are particularly long-lived, surviving for three months or more as they drift in the plankton. As a result, this is one of the most widely distributed of all reef fishes, ranging half way around the World from East Africa to the eastern Pacific.

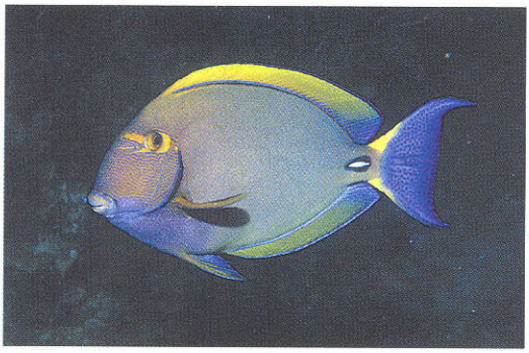
Moorish Idol (Juvenile)
Zanclus cornutus Dhidha mas 15cm

Moorish Idol
Zanclus cornutus Dhidha mas 15cm

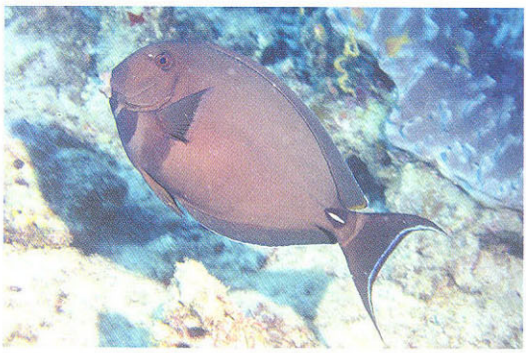


Orangesocket Surgeonfish
Acanthurus auranticavus Kandu kaalhu 30cm

Bloch's Surgeonfish
Acanthurus blochii Kandu kaalhu 40cm



Dussumier's Surgeonfish
Acanthurus dussumieri Kandu kaalhu 40cm



White-chin Surgeonfish
Acanthurus leucocheilus Kandu kaalhu 30cm

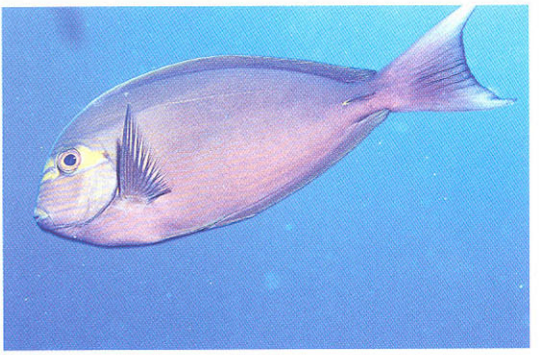
Powder-blue Surgeonfish *Acanthurus leucosternon* Noo kaalhu 18cm
The common blue Surgeonfish of Maldivian reefs, sometimes in large schools

SURGEONFISHES

ACANTHURIDAE

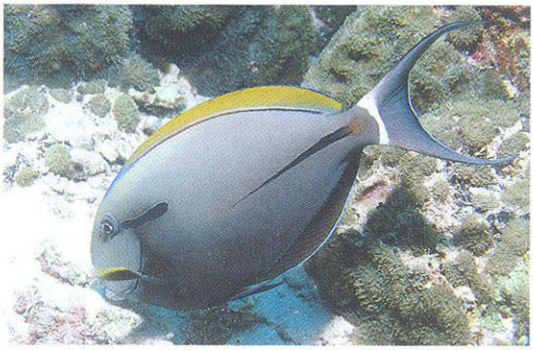
Surgeonfishes have sharp scalpel-like spines on their tail stocks, and it is these that give them their name. Most Maldivian species have one pair, but the Unicornfishes have two. These spines are important in defence, but they are also used in fights within species; look for Surgeonfishes bearing long gashes as a result of such conflicts. Some of the Surgeonfishes feed on plankton (for example the Elongate Surgeonfish, Thompson's and several of the Unicornfishes). These species are commonest on current-swept reefs. However, the majority of Surgeonfishes are herbivores, and as such are very important grazers on the reef. Plants are difficult to digest, and like other herbivores Surgeonfishes have special digestive bacteria in their intestines. Some of these bacteria are unique to Surgeonfishes and live nowhere else. Identification of the many species of Surgeonfish is not always easy. Many look rather similar, and several can change colouration rapidly and dramatically from dark to light. Look for tail shape, spine colouration and other distinctive markings.

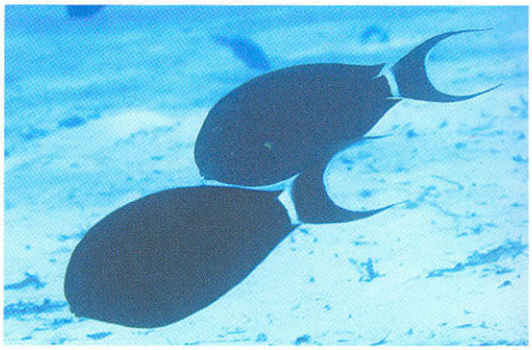
Lined Surgeonfish
Acanthurus lineatus Fashuvi libaas 20cm



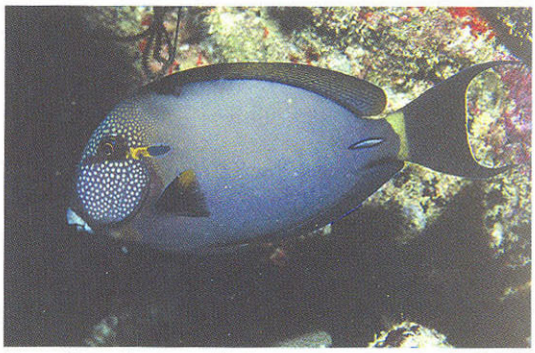
Elongate Surgeonfish
Acanthurus mata Kandu kaalhu 30cm

Elongate Surgeonfish *Acanthurus mata* Kandu kaalhu 30cm
This species is a plankton feeder and forms small schools in midwater

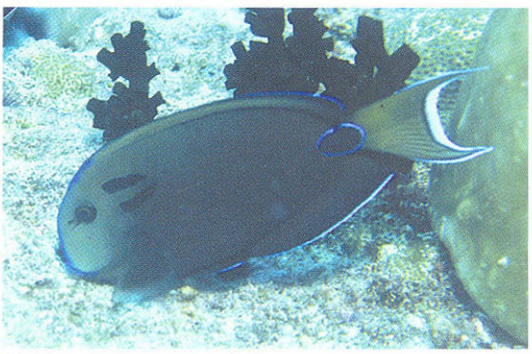




Eye-stripe Surgeonfish *Acanthurus nigricauda* (Andhun kaalhu) 30cm
The eye stripe is characteristic; the tail ring is more easily seen but is also found in some other species



Spot-face Surgeonfish
Acanthurus maculiceps Kandu kaalhu 30cm



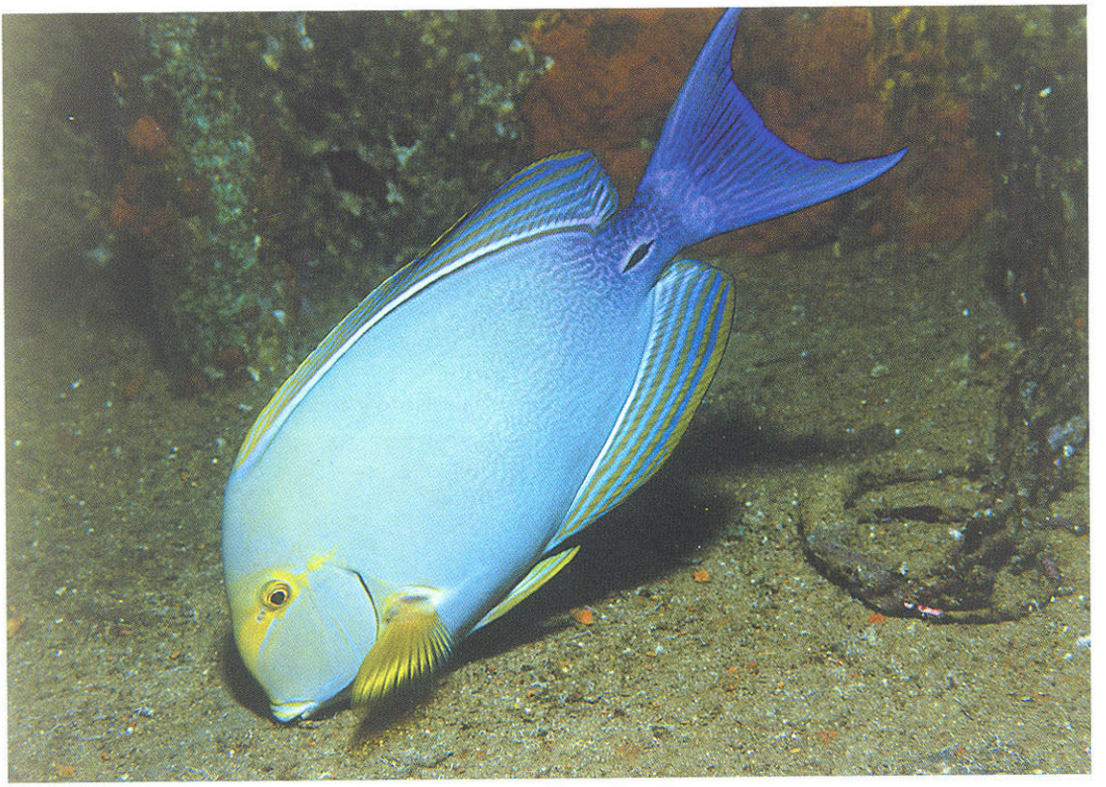
Lieutenant Surgeonfish
Acanthurus tennenti (Dhefah kaalhu) 25cm

Convict Surgeonfish *Acanthurus triostegus* Raabulhaa 15cm
Forms large schools, which steamroll across the reef devouring algae from other fishes' territories

Mimic Surgeonfish *Acanthurus tristis* Kandu kaalhu 18cm
Juveniles (right) appear to mimic the Multispine Angelfish (page 65)

Thompson's Surgeonfish
Acanthurus thompsoni (Nigoo hudhu kaalhu) 15cm

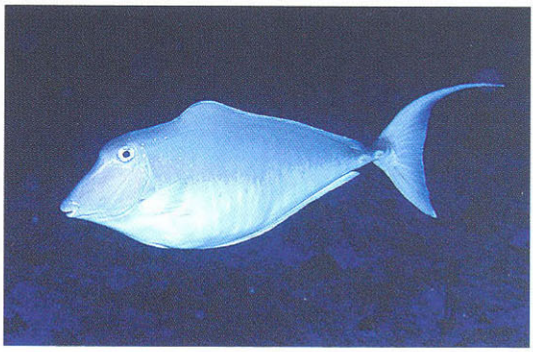
Twospot Bristletooth Surgeonfish
Ctenochaetus binotatus (Lah jehi kaalhu) 12cm



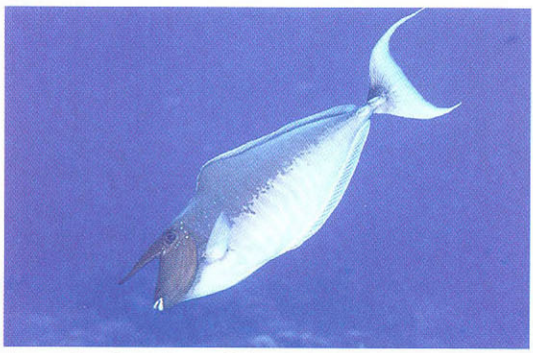
Yellowfin Surgeonfish *Acanthurus xanthopterus* Vilu kaalhu 50cm
Common in deep lagoons, often seen from anchored safari boats

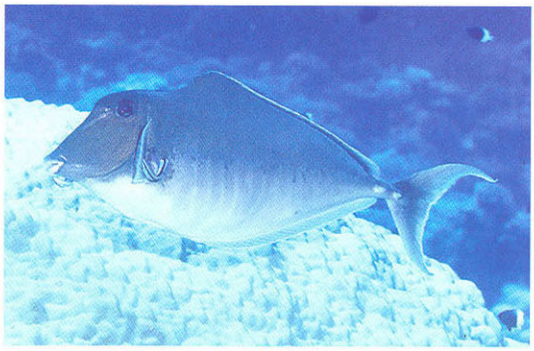
Goldring Bristletooth Surgeonfish *Ctenochaetus truncatus* (Thijjehi kaalhu) 12cm
Formerly known as *Ctenochaetus strigosus*. Juveniles (right) often yellow

Lined Bristletooth Surgeonfish
Ctenochaetus striatus (Rongu dhemi kaalhu) 15cm

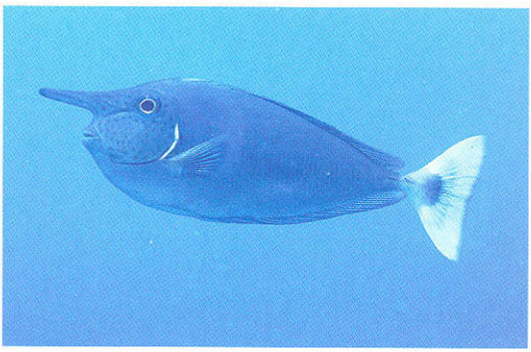


Humpback Unicornfish
Naso brachycentron Ammas 50cm

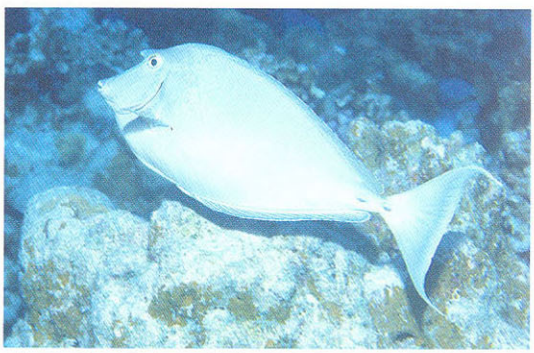




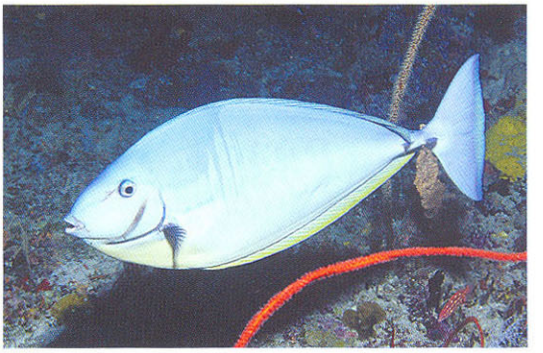
Humpback Unicornfish *Naso brachycentron* Ammas 50cm
Males (left) have the long unicorn spine, which is absent in females (right and above right)



Spotted Unicornfish
Naso brevirostris Thunbi 25cm



Bluespine Unicornfish
Naso unicornis (Noo kashi thunbi) 50cm



Sleek Unicornfish *Naso hexacanthus* Dhalhu neiy thunbi 35cm
These are two photos of one individual taken within a few seconds of each other

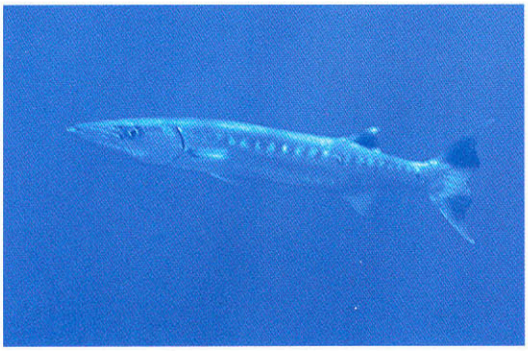
Vlaming's Unicornfish *Naso vlamingii* Vaalan mas 40cm
Very common and frequently shadows divers, playing in their bubbles

Orangespine Unicornfish
Naso elegans Ran geri 30cm

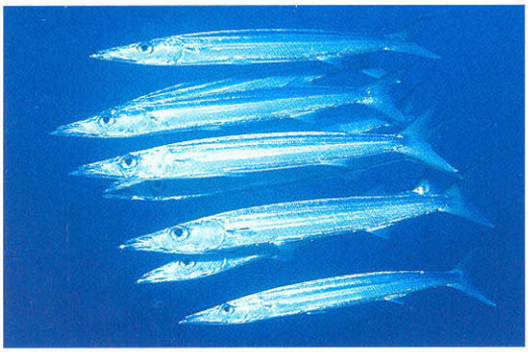
Palette Surgeonfish
Paracanthurus hepatus Dhon noo kaalhu 20cm

Sailfin Tang
Zebrasoma desjardinii Dhunfaiy mas 20cm

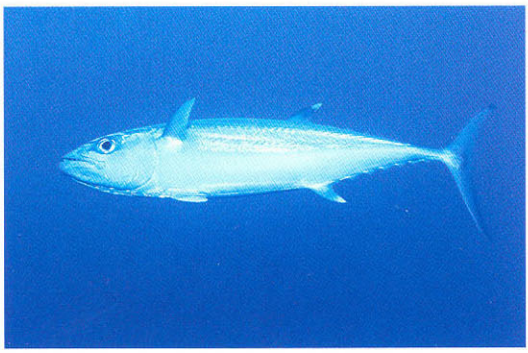
Brushtail Tang
Zebrasoma scopas (Kalhu dhunfaiy mas) 12cm



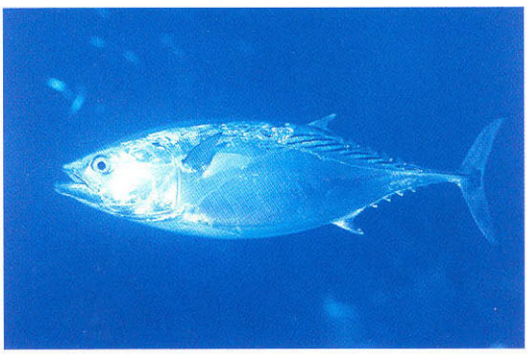
Great Barracuda
Sphyraena barracuda Maa tholi 1.5m



Bigeye Barracuda
Sphyraena forsteri Faru tholi 40cm



Dogtooth Tuna
Gymnosarda unicolor Woshimas 1.2m



Kawakawa
Euthynnus affinis Latti 60cm

BARRACUDAS

SPHYRAENIDAE

Barracudas have a bad reputation. They certainly look menacing, and they are known to have attacked people in some areas of the World. But somehow, wherever you dive it is always another destination that has problems with Barracudas. Fortunately this truism holds for the Maldives. Here, perhaps because there are plenty of reef fish for them to feed on, and the waters are clear enough for them to see what they are chasing, there are no known cases of Barracudas biting divers or snorkellers. Several species live in the Maldives, but telling them apart is not always easy as they all have a similar shape, and colour differences are minimal. The Great Barracuda is the largest, and has distinctive black markings on its tail. It tends to be solitary and is most likely to be seen lurking off outer reef dropoffs. In contrast, the smaller Bigeye Barracuda is a schooling species. As suggested by its large eyes, and its habit of forming resting schools by day, the Bigeye Barracuda is a nocturnal hunter.

TUNAS

SCOMBRIDAE

Tunas are oceanic fishes, but two species are regularly seen on the reefs: the frenetic Kawakawa and the calmer Dogtooth Tuna. Both are tireless predators of small reef fishes, regularly patrolling along reef edges. Dogtooth Tunas are normally seen singly or in small groups, while Kawakawa always occur in schools. Kawakawa is a Polynesian name from Hawaii. It is used in preference to the alternative name of Little Tuna, because the confusion that that name can cause. The main Maldivian fishery is for oceanic Tunas, particularly Skipjack Tuna (*Katsuwonus pelamis*) and Yellowfin Tuna (*Thunnus albacares*). The inshore Kawakawa is also taken in good numbers, but by trolling (towing a hook with feathered lure behind a boat). Until recently there was a major troll fishery in the northern atolls, with hundreds of small sailing boats (*vadhu dhonis*) setting out each morning when conditions were suitable. This fishery is now dying out, largely as a result of men moving to other less strenuous and more profitable forms of employment.

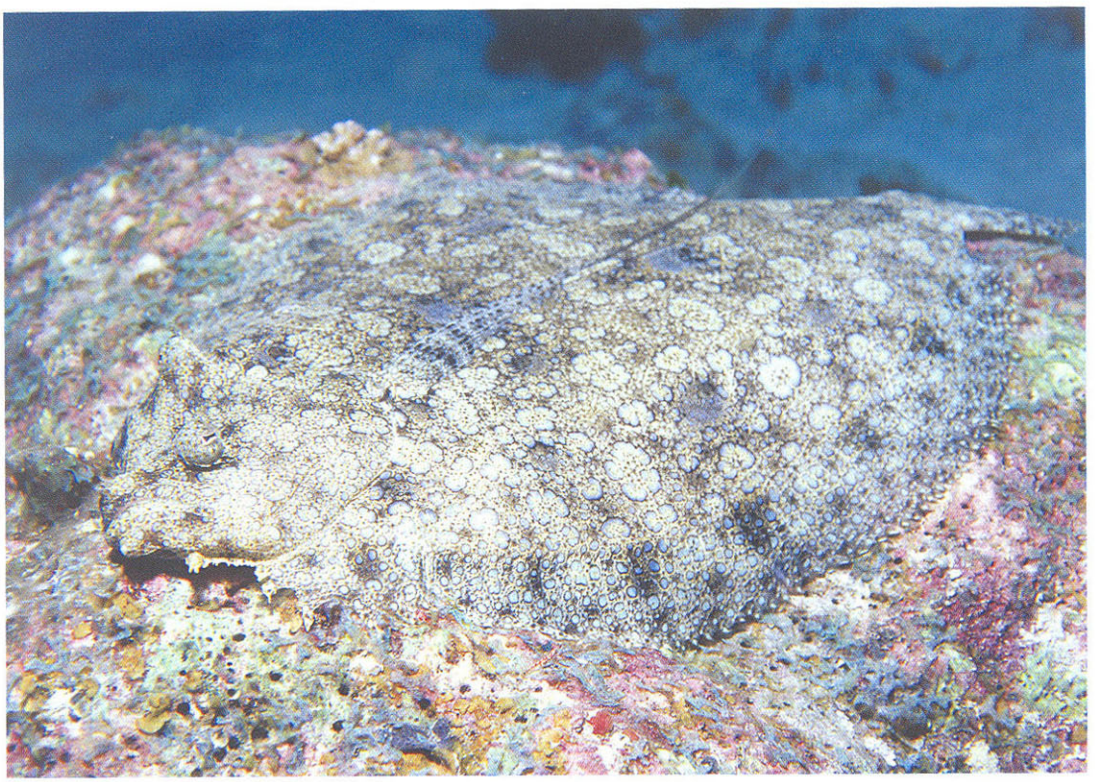
FLATFISHES

PLEURONECTIFORMES

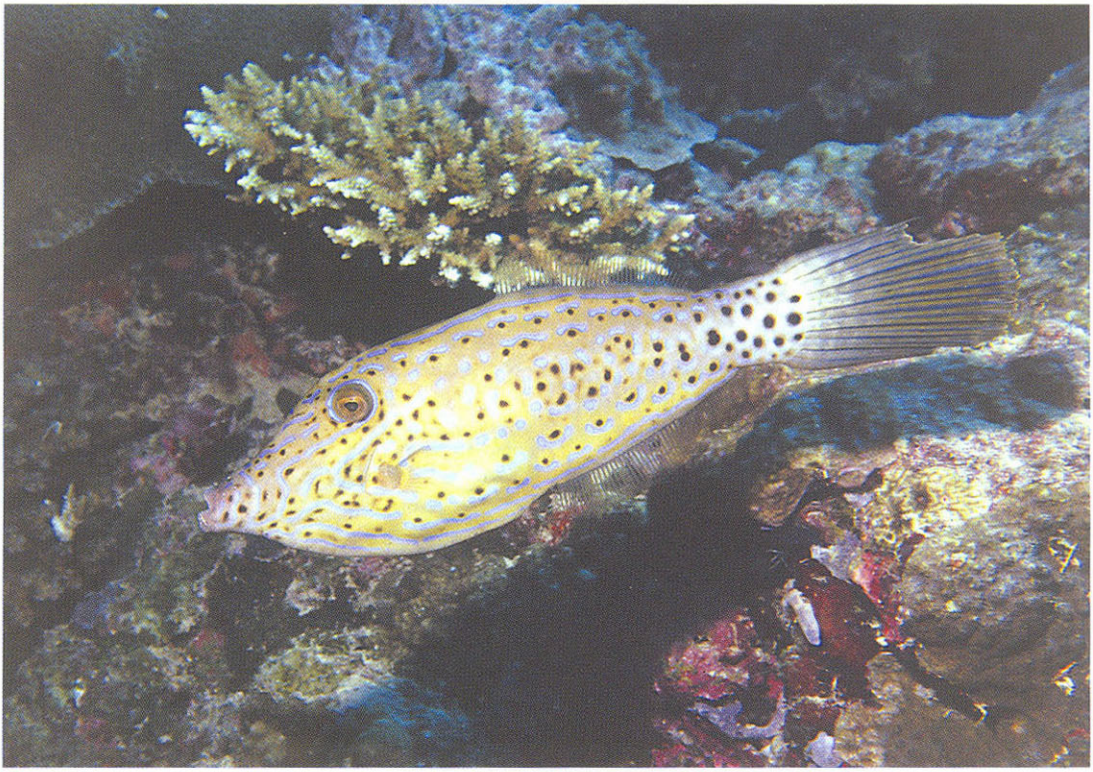
Most Maldivian Flatfishes live in very deep water on sandy bottoms, but just a few species do live on the reefs. The Three-spot Flounder still prefers sandy bottoms, but makes do with small patches on the reef slope, especially in caves. It is extremely well camouflaged, but sometimes gives its position away by waving its long dark pectoral (side) fin. The Peacock Sole likes coarse sandy bottoms, this time in shallow lagoons. In contrast, the Flowery Flounder sits out on rocks on the reef. All young Flatfishes swim upright like other fishes. But adults lie on the bottom on one side; they avoid losing the use of one eye by having it migrate during the course of their development, so that both eyes lie on the upper side of the body in the adult. Some types of flatfish lie on their left sides and consequently have both eyes on the right side (e.g. the Soles, family Soleidae, and the Righteye Flounders, Samaridae) while in other types the opposite is true (e.g. the Lefteye Flounders, Bothidae).

Three-spot Flounder (Samaridae)
Samariscus triocellatus Veli madi 8cm

Peacock Sole (Soleidae)
Pardachirus ?pavoninus Veli madi 10cm



Flowery Flounder (Bothidae) *Bothus mancus* Veli madi 40cm
Not uncommon on Maldivian reefs, but difficult to spot



Scribbled Filefish *Aluterus scriptus* (Fankaa fathirondu) 1m
Like other Filefishes, feeds mainly on reef invertebrates

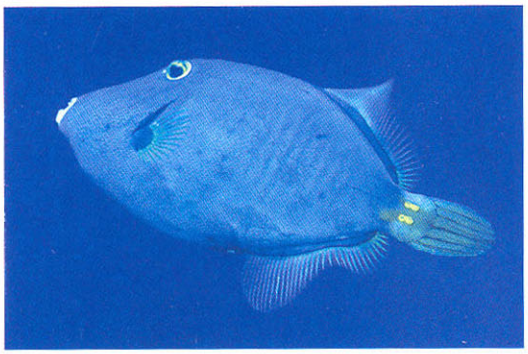
Ear-spot Filefish *Pervagor janthinosoma* (Dhon kothari fathirondu) 12cm
A shy species, rarely straying far from coral cover

FILEFISHES

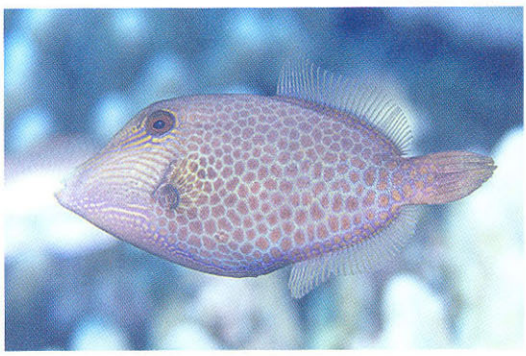
MONACANTHIDAE

Filefishes are very closely related to the Triggerfishes (next page), and for a long time they were placed in the same family. They certainly do look very similar although Filefishes tend to be somewhat slimmer and more elongated. Filefishes also have just one or two (instead of three) dorsal spines, the first one often being especially well developed. One of the most distinctive species is the delightful Longnose Filefish, which is a specialist feeder on coral polyps, favouring branching corals. Its numbers crash whenever live coral cover decreases (for example with coral bleaching or major storm surges), but it returns as soon as the corals re-establish themselves. Another distinctive species is the Mimic Filefish, which is a wonderful copy of the Saddled Sharpnose Pufferfish (page 126). This mimicry affords the Mimic Filefish some protection from predation since the Pufferfish is deadly poisonous. While the mimicry is very convincing, it is not perfect; for example the Pufferfish has black spots on a white snout, while the Filefish has white spots producing a black net effect.

Broom Filefish
Amanses scopas (Iloshi fathirondu) 20cm



Barred Filefish
Cantherhines dumerilii (Galhikendi fathirondu) 35cm



Wirenet Filefish
Cantherhines pardalis (Dhaagandu fathirondu) 20cm

Longnose Filefish
Oxymonacanthus longirostris (Thundhigu fathirondu) 10cm

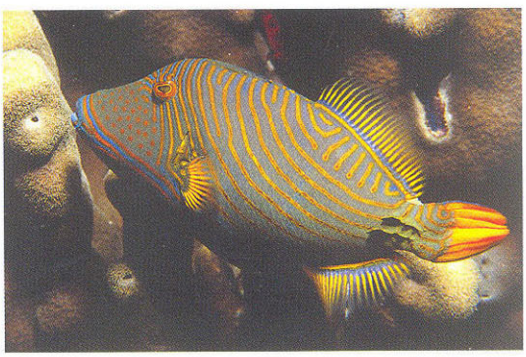
Mimic Filefish
Paraluteres prionurus Thaakihaa fathirondu 10cm

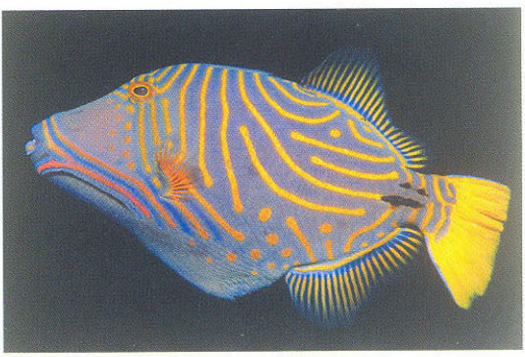
Orange Filefish
Pervagor aspricaudus Fathirondu 12cm

Clown Triggerfish *Balistoides conspicillum* Bis rondu 35cm
Adults are very conspicuous, but juveniles (below left) are quite secretive

Clown Triggerfish (Juvenile)
Balistoides conspicillum Bis rondu 35cm

Yellowmargin Triggerfish
Pseudobalistes flavimarginatus Vilu rondu 50cm





Orange-striped Triggerfish *Balistapus undulatus* (Dhaifuku rondu) 25cm
A distinctive species but showing some variability in colouration and patterning

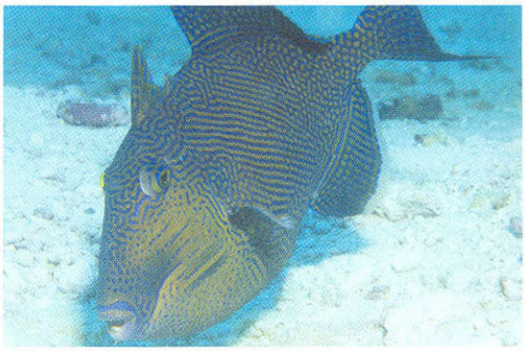
TRIGGERFISHES

BALISTIDAE

Triggerfishes are named for a special mechanism in their dorsal fins. The stout first spine can be locked in an upright position, allowing the fish to jam itself in a reef crevice, for example to sleep at night. The second, smaller spine acts as a trigger, unlocking the first spine if pushed down. Triggerfishes also have a slightly unusual reproductive strategy. They lay their eggs in a shallow depression or 'nest' on the bottom, and guard them until they hatch. Triggerfishes are particularly concerned to keep Wrasses and other egg-eating fish at bay, but larger ones will see off anything or anyone who comes too close. Titan Triggerfishes are so powerful and defend their nests with such vigour (right) that they are often considered to be the most dangerous fish in the Maldives. They are certainly capable of inflicting a very nasty bite. Fortunately there is an easy way to end any confrontation with a broody and irate Titan Triggerfish: just move away from the vicinity of its nest and it will return to its guarding duties.

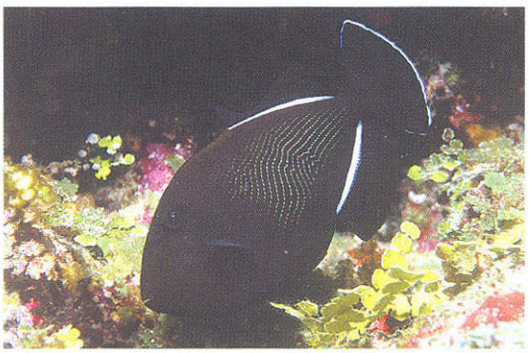
Titan Triggerfish
Balistoides viridescens Maa rondu 60cm

Titan Triggerfish *Balistoides viridescens* Maa rondu 60cm
Normally peaceful, but when nesting will defend its eggs most aggressively



Yellow-spotted Triggerfish *Pseudobalistes fuscus* Noo rondu 50cm
An uncommon species, usually seen singly

Red-toothed Triggerfish *Odonus niger* Vaalan rondu 25cm
A very common plankton-eater, forming huge schools on current-swept reefs



Indian Triggerfish *Melichthys indicus* Kalhu rondu 25cm
The common black triggerfish of Maldivian reefs

Boomerang Triggerfish
Sufflamen bursa Dhon falhu rondu 20cm

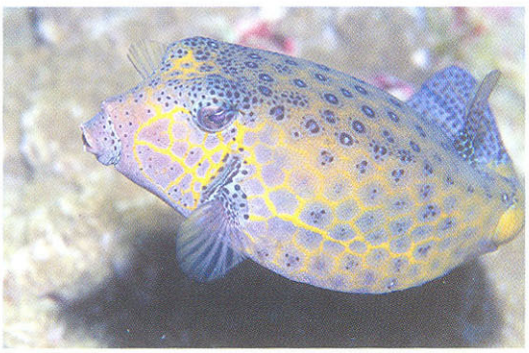
Half-moon Triggerfish
Sufflamen chrysopterus Falhu rondu 20cm

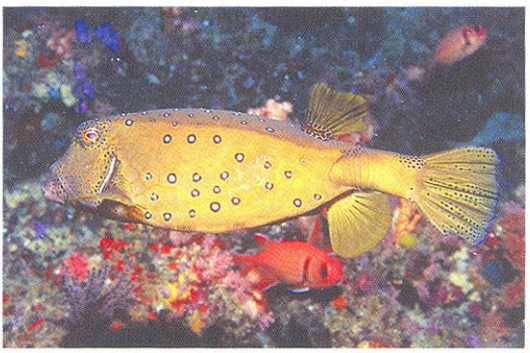
BOXFISHES

OSTRACIIDAE

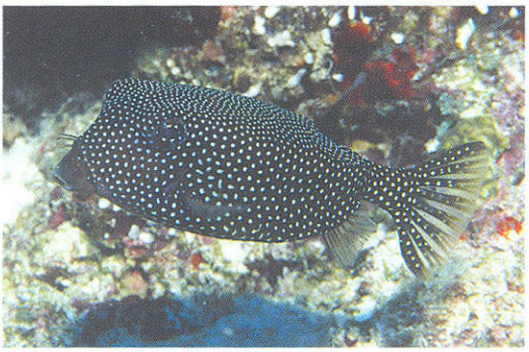
Boxfishes (sometimes also called Trunkfishes) have hard bony plates encasing their bodies in a rigid box or shell. The scientific name for the family is derived from the Greek word for 'shell'. This shell protects them from most predators, but it also greatly constrains their movements. They have completely lost their pelvic fins and they cannot flex their bodies, so they do not swim at all like other fish. Instead they use their pectoral (side) and caudal (tail) fins to scull themselves through the water. In addition to their armour plating, Boxfishes have a second line of defence against potential predators. They can secrete a poison, ostracitoxin, from their skin. This is powerful enough to kill other fish, and as a result Boxfishes do not make good aquarium exhibits, despite their often beautiful appearance. Boxfishes feed heavily on worms and snails but they also use their fused teeth and strong jaws to crop sedentary reef invertebrates such as seas squirts and sponges as well as some algae.

Yellow Boxfish (Juvenile)
Ostracion cubicus Gonu 40cm





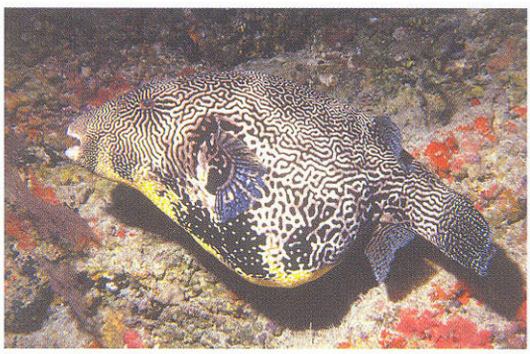
Yellow Boxfish *Ostracion cubicus* Gonu 40cm
Becomes more elongated and more grey-coloured with age



Spotted Boxfish *Ostracion meleagris* Gonu 20cm
Female (left) male (right). Also known as Black or Guineafowl Boxfish

Black-spotted Pufferfish *Arothron nigropunctatus* Fuh kudhi koli 30cm
The commonest large Puffer in the Maldives

Black-spotted Pufferfish *Arothron nigropunctatus* Fuh kudhi koli 30cm
Colour quite variable, from grey through brown to yellow

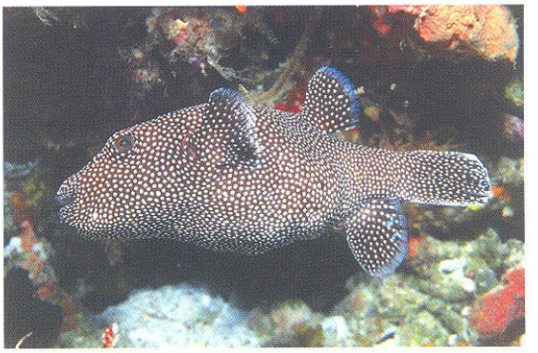


Scribbled Pufferfish *Arothron mappa* Fukkoli 50cm
Adult (left), juvenile (right). Nocturnal, often resting in caves by day

PUFFERFISHES

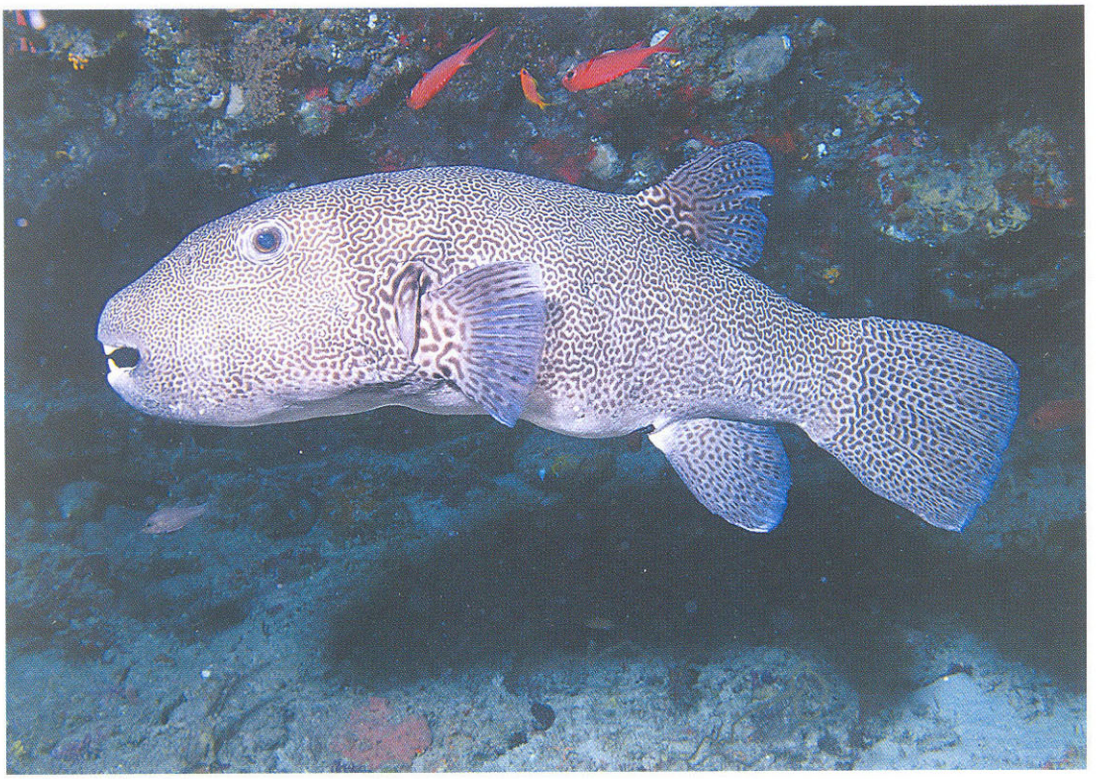
TETRAODONTIDAE

Contrary to popular belief, Pufferfishes do not normally puff themselves up when merely threatened. They have to be molested before they will bother to suck in water and inflate themselves. But when they have to, they can do so with explosive speed. The only two times I have seen Pufferfishes inflate (without poking by a diver) was when they were lodged in the jaws of a predator: one largish one in a Grouper's mouth and one small Sharpnose Puffer in a Lizardfish's. In both cases the would-be diner found itself with its mouth jammed wide open and no way to swallow its hoped-for snack, eventually having to spit it out in frustration. In addition to this remarkable defensive ability, the skin and internal organs of Pufferfishes contain a deadly poison, tetrodotoxin. This undoubtedly deters most would-be predators from even trying to eat them. Ironically, Pufferfish flesh does not contain the poison. In Japan the flesh is prepared by trained and licenced chefs and is prized as the delicacy *fugu*.

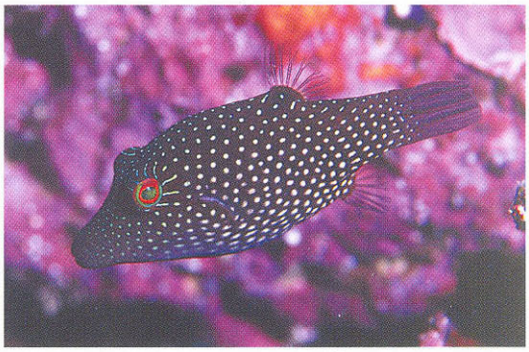


Guineafowl Pufferfish
Arothron meleagris Koli 35cm

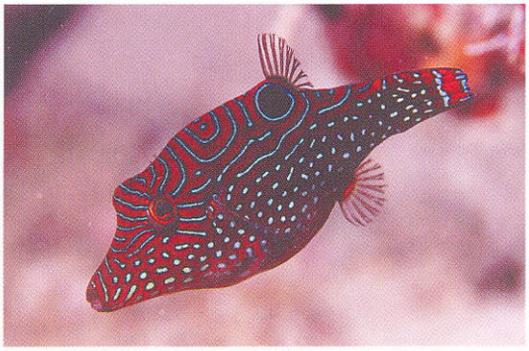
Bennett's Sharpnose Puffer
Canthigaster bennetti Thaakihaa koli 8cm



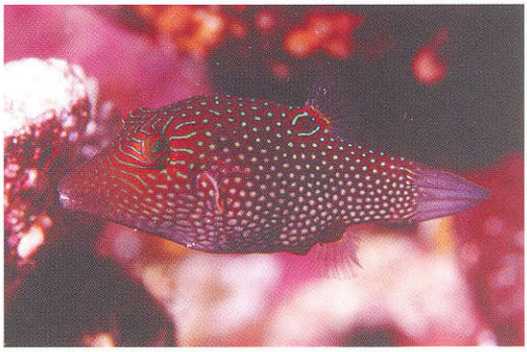
Starry Pufferfish *Arothron stellatus* Fukkoli 80cm
Usually seen in rich coral areas, sometimes swimming up off the bottom



White-spotted Sharpnose Puffer *Canthigaster janthinoptera* (Thijjehi thaakihaa koli) 7cm
Adult (left), juvenile (right). A retiring species, usually seen on steep reef slopes



False-eye Sharpnose Puffer
Canthigaster papua Thaakihaa koli 8cm



Solander's Sharpnose Puffer
Canthigaster ?solandri Thaakihaa koli 8cm

Smith's Sharpnose Puffer *Canthigaster smithae* Thaakihaa koli 10cm
A western Indian Ocean species named for the renowned South African ichthyologist Margaret Smith

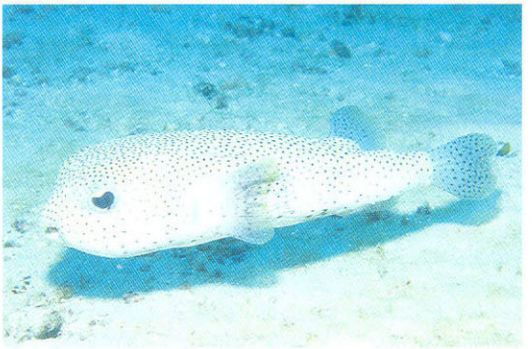
Tyler's Sharpnose Puffer
Canthigaster tyleri Thaakihaa koli 7cm

Saddled Sharpnose Puffer
Canthigaster valentini Thaakihaa koli 10cm

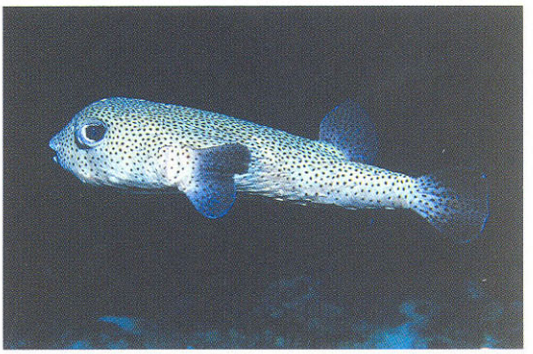
PORCUPINEFISHES

DIODONTIDAE

Porcupinefishes are closely related to Pufferfishes. And like the Puffers, Porcupinefishes can inflate themselves when attacked. However, Porcupinefishes have an additional defence mechanism, with numerous stout spines covering their bodies. As a result very few animals will even attempt to eat them, one exception being the Tiger Shark (*Galeocerdo cuvieri*), which will eat almost anything. Of the two species regularly seen in the Maldives, the Blotched Porcupinefish is commonest on reef slopes and is the one most likely to be seen by divers. The Spotted Porcupinefish is more wide-ranging, occurring from reef flats to open water off the reef slope. This is the one most likely to be seen in the very shallow water of reefs or lagoons, either while snorkelling or from water bungalow walkways. When over sand in shallow water the Spotted Porcupinefish becomes very pale, indeed almost white (right, top), but when in less well-lit conditions it becomes darker (right).



Spotted Porcupinefish
Diodon hystrix Kashi koli 60cm



Spotted Porcupinefish
Diodon hystrix Kashi koli 60cm

Blotched Porcupinefish *Diodon liturosus* Kashi koli 45cm
A nocturnal species, usually seen sheltering in holes in the reef by day

INDEX

Abudefduf 68
Acanthuridae 110-115
Acanthurus 110-113
Aethaloperca 29
Aetobatus 7
Aluterus 118
Amanses 119
Amblyeleotris 1,99,100
Amblyglyphidodon 69
Amblygobius 96
Amphiprion 2,68,69
Anampses 75,76
Anemonefish 2,68,69
ANGELFISHES 64-65,130
Anomalopidae 16
Antennariidae 14-15
Antennarius iii,14,15
ANTHIAS 36-37
Anyperodon 29
Aphareus 45
Apogon 40,41
Apogonidae 40-41
Apolemichthys 65
Archamia 41
Arothron 124-125
Asterropteryx 102
Atherinidae 16
Aulostomidae 17
Aulostomus 17
Balistapus 120
Balistidae 120-122
Balistoides 120,121
Bannerfish 63
BARRACUDAS 116
BASSLETS 35
BATFISHES 107
Belonidae 16
Bigeye Bream 54
BIGEYES ii,39
Bird Wrasse 79
BLENNIES iv,93-95
Blenniidae 93-93
Bodianus 76
Bothus 117
BOXFISHES 123
Breams 54
Bryaninops 102,103
Bullseyes 39
BUTTERFLYFISHES 58-63
Caesio 48,49
Caesionidae 48-49
Callionymidae 92
Calloplesiops 38
Calotomus 86
Cantherhines 119
Canthigaster 125,126
Carangidae 42-43
Carangoides 42
Caranx 42,43
Carcharhinus 4,5
CARDINALFISHES 40-41
Centropyge 65
Cephalopholis ii,28-31
Cetoscarus 86
Chaetodon 58-62
Chaetodontidae 58-63
Cheilinus 75,77
Cheilio 78
Cheilodipterus 41
Chlidichthys 38
Chlorurus 86,87
Chromis 70-72
Chrysiptera 72
Chubs 55
Cirrhitichthys 66
Cirrhitidae 66-67
Cirrhitus 67
Cirrilabrus 77
Cirripectes 94
Cleaner Wrasse 80,81
Clupeidae 11
Comet 38
Congridae 11
Coralgrouper 34
Coris 78
Cornetfish 17
Corythoichthys 23
Crenimugil 13
Crypocentrus 100
Ctenochaetus 114
Ctenogobiops 100,101
Cymolutes 76
DAMSELFISHES 68-74
Dart 43
DARTFISHES 106
Dart Goby 106
Dascyllus 72
Diagramma 51
Diodon 127
Diodontidae 127
Diploprion 35
DOTTYBACKS 38
DRAGONETS 92
Drummers 55
Dunkerocampus 23
Eagle Ray 7
Echeneidae 44
Echeneis 44
Echidna 8
Ecsenius iv,94,95
Elagatis 43
Electric Ray 7
EMPERORS 52-54
Ephippidae 107
Epibulus 78
Epinephelus 32,33
Euthynnus 116
Eviota 103
Exallias 95
Exyrias 97
FILEFISHES 118-119
Firegoby 106
Fistularia 17
Fistulariidae 17
Flabelligobius 101
FLASHLIGHT FISHES 16
FLATFISHES 117
Flounder 117
FLUTEMOUTHS 17
Forcepsfish 62
Forcipiger 62
FROGFISHES iii,14-15
Fusigobius 96,97
FUSILIERS 48-49
GARDEN EELS 11
Gerreidae 44
Gerres 44
GHOST PIPEFISHES 22
Glasseyes 39
Gnathodentex 53
Gnathodon 42
Gnatholepis 97
GOATFISHES 56-57
GOBIES 1,96-105
Gobiidae 96-105
Gobiodon 97
Goggleyes 39
Gomphosus 79
Gracilia 33
Grammistes 35
Gregory 74
GROUPERS 28-34
Grubfishes 91
Gymnocaesio 49
Gymnocranius 52
Gymnosarda 116
Gymnothorax 8,9
Haemulidae 50-51
HALFBEAKS 16
Halichoeres 79,80
HAWKFISHES 66-67
Hazeus 99
Helcogramma vi,92
Hemigymnus 81
Hemiramphidae 16
Hemitaurichthys 62
Heniochus 63
HERRINGS 11
Heteroconger 11
Himantura 7
Hipposcarus 87
Hogfish 76
Holocentridae 18-21
Hypoatherina 16
Hyporamphus 16
Iniistius 85
Istigobius 98
JACKS 42-43
Jobfish 45
Kawakawa 116
Kyphosidae 55
Kyphosus 55
Labrichthys 81

Labridae 75-85
Labroides 80,81
Labropsis 81
Leaf Fish 27
Lepidozygus 73
Lethrinidae 52-54
Lethrinus 52,53
Lionfish 24
Liopropoma 35
LIZARDFISHES 12-13
LONGFINS 38
Lutjanidae 45-47
Lutjanus 45-47
Lyretail Grouper 34
Macolor 47
Malacanthidae 38
Malacanthus 38
Manta 6
Maori Wrasse 75,77,83
Meiacanthus 93
Melichthys 122
Microdesmidae 106
Micro-gobies 102-105
Mojarras 44
Monacanthidae 118-119
Monocle Bream 54
Monotaxis 54
MOORISH IDOL 109
MORAY EELS 8-10
Mugilidae 13
MULLETS 13
Mullidae 56-57
Mulloidichthys 57
Muraenidae 8-10
Myrichthys 11
Myripristis 18,19
Napoleon 76
Naso 114,115
Nebrius 5
NEEDLEFISHES 16
Nemanthias 36
Nemipteridae 54
Neoniphon 20,21
Odonus 122
Oedalechilus 13
Ophichthidae 11
Ostraciidae 123
Ostracion 123
Oxycheilinus 77, 83
Oxycirrhites 67
Oxymonacanthus 119
Paracanthurus 115
Paracirrhites 66,67
Paraluteres 119
Parapercis 91
Parapriacanthus 55
Pardachirus 117
PARROTFISHES 86-90
Parupeneus 56,57
Pastinachus 7
Pempheridae 55
Pempheris 55
Pervagor 118,119
Petroscirtes 93
Photoblepharon 16
Pinguipedidae 91
PIPEFISHES 23
Pisodonophis 11
Plagiotremus 93
Platax 107
Plectorhinchus 50,51
Plectroglyphidodon 73
Plectropomus 34
Plesiopidae 38
Pleuronectiformes 117
Pleurosicya 104
Pomacanthidae 64-65
Pomacanthus 64,65
Pomacentridae 68-74
Pomacentrus 73,74
PORCUPINEFISHES 127
Priacanthus ii,39
Priolepis 104
Pseudanthias 36,37
Pseudobalistes 120,122
Pseudocheilinus 83
Pseudochromidae 38
Pseudodax 83
Pterocaesio 48,49
Pterois 24
PUFFERFISHES 124-126
Pygoplites 64,130
RABBITFISHES 108-109
Rainbow Runner 11,43
RAYS 6-7
Razorfish 85
Reef Shark 4,5
REMORAS 44
Rhabdamia 41
Rhincodon 4
Rhinomuraena 10
Ribbon Eel 10
Rock Cod ii,28-31
RUDDERFISHES 55
Sabretooth Blenny 93
Samariscus 117
Sand-goby 96,97,99
SANDPERCHES 91
Sargocentron ii,20,21
Saurida 13
Scaridae 86-90
Scarus 87-90
Scombridae 116
Scorpaenidae 24-27
Scorpaenopsis ii,3,25-27
SCORPIONFISHES ii,3,24-27
Sergeant Major 68
Serranidae 28-37
SHARKS 4-5
Sharpnose Puffer 125,126
Shrimp Goby 1,2,99-102
Siderea 9
Siganidae 108-109
Siganus 108,109
SILVERBIDDIES 44
SILVERSIDES 16
Silver Sprat 11
Sleeper Goby 98
Slingjaw Wrasse 78
SNAKE EELS 11
SNAPPERS 45-47
SOAPFISHES 35
SOLDIERFISHES 18-19
Sole 117
Solenostomidae 22
Solenostomus 22
Sphyraena 116
Sphyraenidae 116
Spinecheek 54
Spratelloides 11
SQUIRRELFISHES ii,20-21
Stegastes 74
Stethojulis 83
Stingray 6,7
Stonefish 26,27
Stonogobiops 2,101
Sufflamen 122
SURGEONFISHES 110-115
SWEEPERS 55
SWEETLIPS 50-51
Synanceia 26,27
Synchiropus 92
Syngnathidae 23
Synodontidae 12-13
Synodus 12,13
Taenianotus 27
Taeniura 7
Tang 115
Tetraodontidae 124-126
Thalassoma 84,85
Thicklip Wrasse 81
THREADFIN BREAMS 54
TILEFISHES 38
Torpedo 7
Trachinotus 43
Trachyrhamphus 23
Trevally 42
Triaenodon 5
TRIGGERFISHES 120-122
Trimma 104,105
TRIPLEFINS vi,92
Tripterygiidae 92
TRUMPETFISH 17
TUNAS 116
Tylosaurus 16
Unicornfish 114,115
Upeneus 57
Uropterygius 9
Valenciennea 98
Vanderhorstia 102
Variola 34
Wetmorella 85
Worm Goby 106
WRASSES 75-85
Zanclus 109
Zebrasoma 115

SELECTED READING

Identification Books

Anderson R.C. (1992) *Divers' Guide to the Sharks of the Maldives.* Novelty Printers and Publishers, Malé. 64pp.

Anderson R.C. and A. Hafiz (1987-92) *Common Reef Fishes of the Maldives. Parts 1, 2 & 3.* Novelty Printers and Publishers, Malé. 83+85+85pp.

Debelius H. (1999) *Indian Ocean Reef Guide.* IKAN-Unterwasserarchiv, Frankfurt. 321pp.

Kuiter R.H. (1998) *Photographic Guide to Fishes of the Maldives.* Atoll Editions, Apollo Bay. 257pp.

M.R.S. (1997) *Fishes of the Maldives.* Marine Research Section, Ministry of Fisheries and Agriculture, Malé. 417pp.

Randall J.E. (1992) *Diver's Guide to Fishes of Maldives.* Immel Publishing, London. 193pp.

Smith M.M. and P.C. Heemstra (Eds) (1991) *Smiths' Sea Fishes.* Southern Book Publishers, Johannesburg. 1047pp, 144 plates.

Scientific Reports

Randall J.E. and M. Goren (1993) A review of the Gobioid fishes of the Maldives. *Ichthyological Bulletin of the J.L.B. Smith Institute of Ichthyology.* Vol 58: 1-37.

Randall J.E. and R.C. Anderson (1993) Annotated checklist of the fishes of the Maldive Islands. *Ichthyological Bulletin of the J.L.B. Smith Institute of Ichthyology.* Vol 59: 1-48.

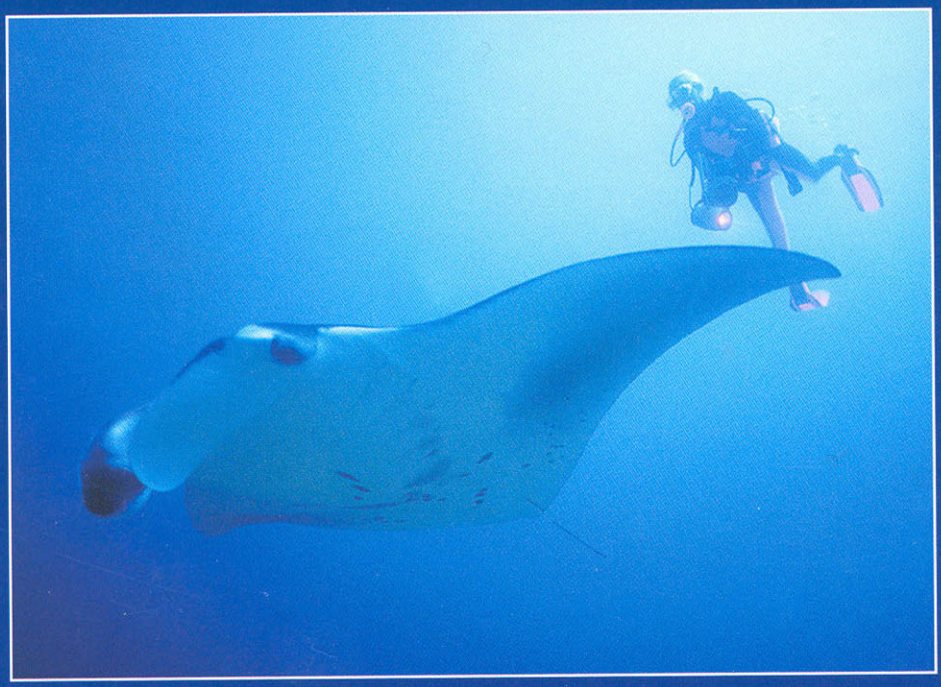
Adam M.S., N.R. Merrett and R.C. Anderson (1998) Additions to the fish fauna of the Maldive Islands. Part 1: An annotated checklist of the deep demersal fishes of the Maldive Islands. *Ichthyological Bulletin of the J.L.B. Smith Institute of Ichthyology.* Vol 67: 1-19.

Anderson R.C., J.E. Randall and R.H. Kuiter (1998) Additions to the fish fauna of the Maldive Islands. Part 2: New records of fishes from the Maldive Islands, with notes on other species. *Ichthyological Bulletin of the J.L.B. Smith Institute of Ichthyology.* Vol 67: 20-36.

Regal Angelfish (Juvenile)
Pygoplites diacanthus

ABOUT THE AUTHOR

Dr. Charles Anderson is a professional marine biologist. Born in England in 1957, he received his doctorate for studies at the internationally renowned Fisheries Research Laboratory in Lowestoft on the North Sea coast in 1982. He has lived and worked in the Maldives since 1983. For many years he carried out fisheries research for the Maldivian Marine Research Centre, much of it on the important tuna fishery and its associated livebait fishery. He was chief scientist for several pioneering research programmes, including exploratory offshore and reef fish surveys, a shark fishery survey and a deep-demersal fish survey. With ichthyological colleagues he has made a particular study of the fishes of the Maldives, publishing a series of scientific papers documenting the fish fauna of the islands. This on-going work has led to the discovery of several species new to science and added some 400 species to the list of fishes known from the country. In recognition of his work he received the national Award for Fisheries in 1995, the only non-Maldivian ever to receive this accolade.



BEEN SNORKELLING OR DIVING?
ENTRANCED BY THE FABULOUS FISH LIFE?
CONFUSED BY THE VARIETY?
THEN THIS IS THE BOOK FOR YOU!

The coral reef fishes of the Maldives are among the most colourful to be seen anywhere in the world. They are also among the most diverse. Presented here are underwater pictures of all of the commoner and more conspicuous species, enabling anyone to make a start at fish identification. For every visitor to the Maldivian reefs, this is the book to open up a whole new understanding and appreciation of this underwater paradise.

Maldives Natural History
Vol 1. Reef Fishes

ISBN: 99915-54-01-7

MANTA MARINE

6159
$ 40